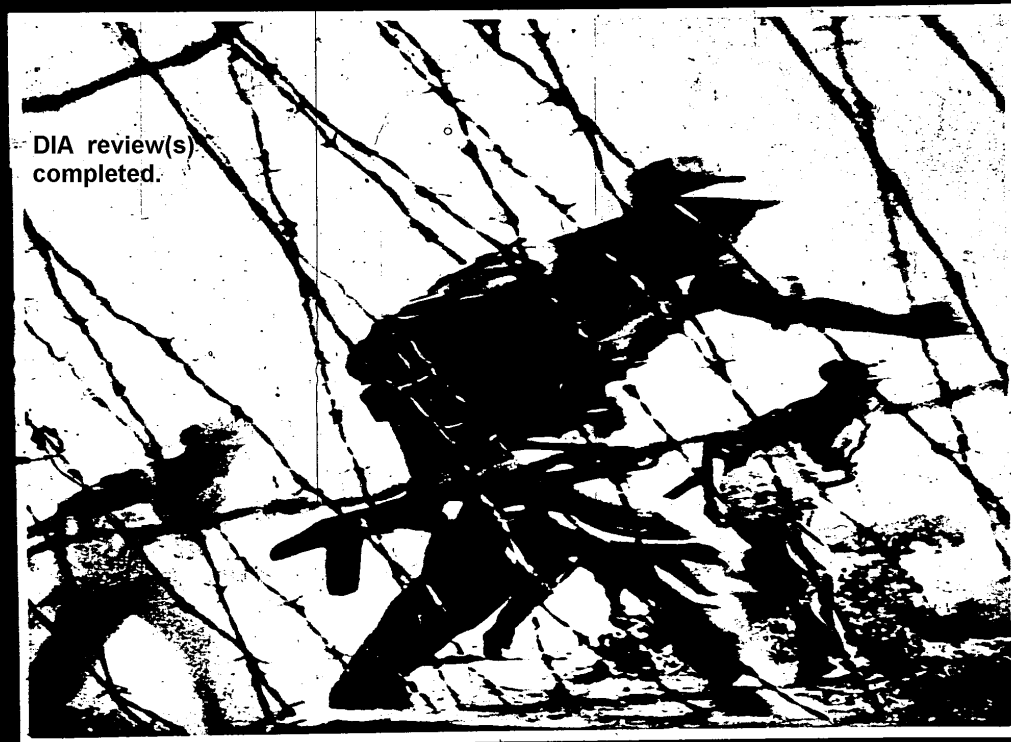


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## HANOI SENDS GREEN TROOPS TO LAOS/SOUTH VIETNAM

EVIDENCE suggesting that North Vietnamese officials may be using Laos as a combat training area continues to mount. The most recent indication of this practice is the capture in Laos of young North Vietnamese soldiers who were apparently fresh from basic training when committed to battle against Royal Lao Forces. This incident, which occurred at Dong Hene between 9 and 12 March, appears to confirm previous evidence. It suggests that North Vietnam and the Viet Cong not only may be abandoning their earlier practice of giving combat forces thorough training and indoctrination and a diligent rehearsal in military operations, but also may be departing from their general custom of committing themselves only when the odds seem heavily weighted in their favor.

Such a program might reflect the concern of the North Vietnamese over maintaining their holdings in South Vietnam in the face of accelerated US/South Vietnamese operations, or more likely might indicate preparations to intensify their own activities in the hope of achieving a quick victory, thereby reducing the losses normally associated with prolonged combat. On the other hand, North Vietnamese officials may be keeping the bulk of their regular army intact for possible future operations while sending mostly recruits southward.

Some of the young North Vietnamese soldiers captured at Dong Hene in early March claimed they had received as little as 2 weeks' military instruction. Their stopovers in areas where they could be com-

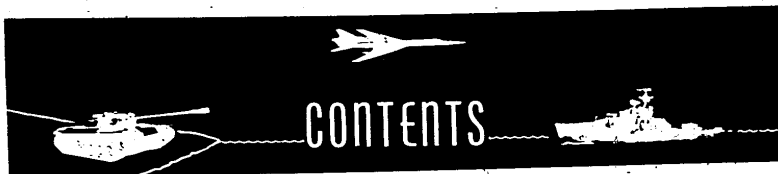
mitted against Lao units, and their apparent reluctance to defend their positions, suggest that the possible primary objective in using this route was to gain combat experience. The captured soldiers may not have been en route to South Vietnam—there have been some reports that such troops are rotated from Laos back to North Vietnam—but many young North Vietnamese soldiers are believed to have received at least part of their basic training in Laos and to have continued on into South Vietnam.

At least three of the prisoners captured at Dong Hene claimed to be from the 3d Battalion, 9th Regiment, 304th Division, and to have left Ninh Binh for Laos on 1 February. One of the prisoners alleged that two other battalions of the 9th Regiment had departed Ninh Binh for South Vietnam on 29-30 January, and that the 57th Regiment of the 304th had been ordered there earlier. Previous interrogations indicate that these statements possibly concern infiltration groups, which simply receive their training with the units indicated, rather than elements of the regular army units themselves.

Reports from South Vietnam tend to support the belief that recent infiltrators have been youthful and inexperienced. About 90 percent of the reported approximately 7,000 infiltrators who arrived in South Vietnam in the last year are believed to be native North Vietnamese draftees who were given only limited training prior to their arrival in South Vietnam. [END]



VIET CONG shown above have had thorough training; North Vietnam now may be also using relatively inexperienced troops. [S]



June 1965	Volume 3	Number 6
Focus		2
Command and Control of Soviet IRBM/MRBM Force		4
MRBM Has Dual Role in Soviet Strategy		7
East European Warsaw Pact Navies Continued Progress in 1964		9
Chicom Training for War Based Upon 'Six Tactics' of Lin Piao		15
Japan's Naval Air Arm Strives to Improve ASW Capability		18
Soviet Army Engineers Equip Units for Modern Warfare		22
Enter Fishbed, Exit 'Beanie'		28
Pace Quickens for Ile Du Levant French Missile and Rocket Range		29
Eastern European Countries Linking Communication Nets		32
Morocco and Algeria Rebuild Armed Forces		37
Cambodia Strengthening Defense on Two Borders		40
Iranian Ground Forces Being Reorganized		42
Intelligence Briefs		44

### THE COVER



THE "Six Tactics" of Marshal Lin Piao, Minister of National Defense of Communist China, and one of that country's abler military leaders, have been accepted by the Chinese Communist Army (CCA) as the liveliest, most concentrated, comprehensive, and practical manifestations of Chicom leader Mao Tse-tung's theory of war. Chicom troops are instructed to apply these tactics with flexibility, as each situation and each enemy will have different characteristics, according to Chicom leaders. One of Marshal

Lin's "Six Tactics" is designated "Four Elements in One Unit." The four elements consist of the following: An assault element, a fire-support element, an engineer element, and a reserve element. The "One Unit" refers to an attack force composed of these four elements. The photograph shows members of a CCA engineer breaching element with their demolition equipment in a simulated attack during training. For further information about the essentials of CCA tactics, see "Chicom Training for War Based Upon 'Six Tactics' of Lin Piao," page 15. [C]

### FOREWORD

**MISSION:** The mission of the monthly *Defense Intelligence Digest* is to provide all components of the Department of Defense and other United States agencies with timely intelligence of wide professional interest on significant developments and trends in the military capabilities and vulnerabilities of foreign nations. Emphasis is placed primarily on nations and forces within the Communist Bloc.

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JOSEPH F. CARROLL  
Lt General, USAF  
Director

# COMMAND AND CONTROL of Soviet IRBM/MRBM Force

The Soviet command organization, made up of corps, army, division, regiment, battalion, and company, is believed to be functionally divided into the command and control organization and the operational organization. The command and control organization is believed to be composed of 200 personnel.

THE IRBM/MRBM force of the Soviet Union's Strategic Rocket Troops (SRT) is believed to be well organized, to be strategically deployed, and to have an effective command and control system. Headquarters of the SRT is in Moscow and is on a command level with headquarters of the other major military entities—ground, navy, air, and air defense forces. The Commander-in-Chief (C-in-C) of the SRT is responsible for organization and administration of the organic forces and weapon systems of the command and for implementation of the operational policy formulated by higher authority.

The SRT probably is divided into two major components: the IRBM/

MRBM force and the ICBM force. The chain of command to SRT Headquarters comes from the Presidium of the Central Committee of the Communist Party of the Soviet Union through the Minister of Defense and the Chief of the General Staff (see chart, page 6).

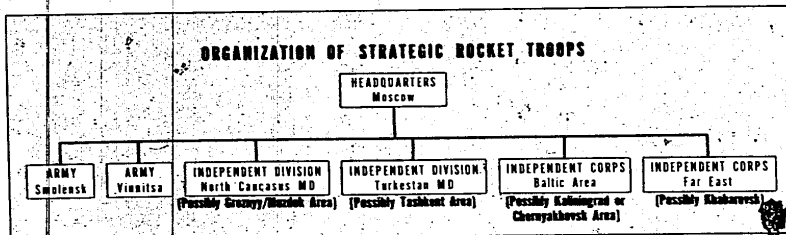
## Strength and deployment

The IRBM/MRBM force (operational, support, and trainees), numbering approximately 90,000 personnel and equipped with about 740 launchers—about 110 for 30-35 IRBM sites and about 630 for 155-160 MRBM sites—is deployed throughout the Soviet Union. The force is organized into armies, corps, divisions,

regiments, battalions, and batteries. Since about 90 percent of the force is located in western USSR, the highest level IRBM/MRBM commands probably are in that area.

The requirement for coordination of operational plans with Long Range Aviation (LRA) units probably prompted the collocation of an IRBM/MRBM army headquarters with the headquarters of the First and Second Long Range Air Armies at Smolensk and Vinnitsa, respectively. Further, in view of the especially heavy deployment in the Baltic area, a number of the sites in that area may be under a separate command, possibly an independent corps with its headquarters somewhere in the general Kaliningrad/Chernyakhovsk area. Such an organization would parallel that of the LRA during the 1950's when the number of LRA medium bomber units in northwestern USSR apparently warranted the existence of an independent bomber corps—subsequently deactivated during a general reduction of the LRA force and concurrent with the stepped-up MRBM deployment in that area at that time.

IRBM/MRBM units in the Far East are believed to be commanded



by an independent corps with headquarters collocated with the military district and air defense authorities at Khabarovsk. Units in south-central USSR probably are assigned to an independent division, the headquarters of which may be collocated with the Military District Headquarters at Tashkent. IRBM/MRBM units in the north Caucasus probably are commanded by an independent division, centrally located, probably somewhere in the general Groznyy/Mozdok area.

#### Selection of personnel

The initial officer and enlisted personnel to man the SRT were drawn from all branches of the armed services; the major inputs, however, were from artillery and air force. Artillery personnel possessed the necessary skills and also had range-firing experience. Assignment of large numbers of air force personnel probably was based on the following factors:

- Similarity in complex jobs existing in the SRT and the air forces, especially the LRA.
- Availability of a large group of highly competent administrative and operational LRA personnel resulting from the deactivation of many Tu-4/Bull medium bomber regiments and administrative headquarters during the LRA conversion from conventional to jet aircraft underway at the same time.
- Transfer of certain strategic targets from the LRA to the SRT. From its inception, and until the formal activation of the SRT, the LRA was responsible for the administrative and operational control of the MRBM force. The SRT probably was formed in early 1960. On 16 January the Soviet Minister of Defense, Marshal Malinovsky, in a speech to the Supreme Soviet, disclosed the existence of a "rocket force" and stated that it was "... unquestionably the principal branch of the Armed Forces."

On 6 May 1960, Marshal Grechko, then Malinovsky's deputy and C-in-C of the Warsaw Pact forces, reiterated that the rocket troops had become the main branch of the Armed Forces with its own command and organizational structure. The next day, Premier Khrushchev officially announced the creation of a "High Command of Rocketry." Transfer of command responsibilities from the LRA to the SRT probably continued throughout

1960, with full operational control being assumed by the SRT in the latter part of that year.

The first Commander-in-Chief of the SRT was Marshal M. I. Nedelin (formerly Chief Marshal of Artillery). Nedelin died in an accident in October 1960 and was succeeded as C-in-C by Marshal K. S. Moskalenko (former commander of the Moscow Military District) who, in turn, was succeeded by Marshal S. S. Biryuzov (former C-in-C of Air Defense forces) in April 1962. The current C-in-C of the SRT, Marshal N. I. Krylov, replaced Biryuzov in March 1963.

The Main Staff is considered the

largest component in SRT Headquarters, but the most important probably is the Missile Troop Equipment Directorate, which generally is charged with the supply and maintenance of missiles and their related specialized support equipment. Headquarters staff personnel probably work in close liaison/coordination with their counterparts of the other major forces at Ministry of Defense level. This is especially necessary in the case of the air forces and the navy because the LRA, a part of the submarine forces, and the SRT form the basis of the Soviet strategic nuclear deterrent.

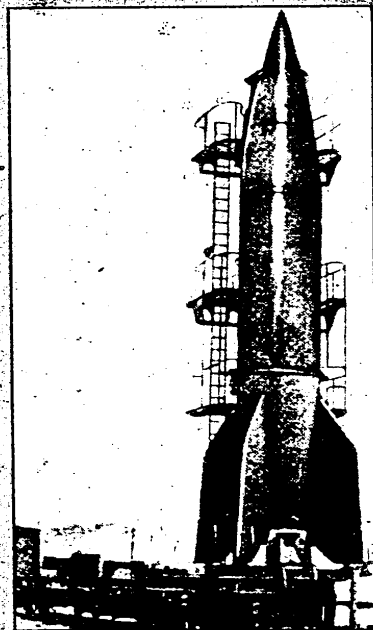
Similar liaison/coordination in the

## GERMAN ROCKET R&D BASIS OF SOVIET PROGRAM

THE Soviet missile program, for all practical purposes, was launched at the end of World War II when Soviet troops advancing to the west overran a number of German rocket research and testing facilities—the most important of which was at Peenemünde. In addition to the facilities, the Soviets quickly acquired many of the German rocket engineers and technicians.

Acquisition of these facilities and personnel greatly enhanced the Soviet missile program, the results of which became apparent in 1947 when a German-type V-2 rocket was launched from the Kapustin Yar Missile Test Range (KYMTR); its rangehead is located near Volgograd, formerly Stalingrad. The KYMTR subsequently emerged as one of the two major missile test ranges (Tyuratam Missile Test Range is the other). Activity at KYMTR also has involved surface-to-air missiles (SAM) and medium and intermediate range ballistic missiles (MRBM and IRBM).

The MRBM test program at the KYMTR began in 1953 with the launch of a 630-nautical-mile SS-3 (Shyster). This missile, although now considered obsolescent, became operational in 1956 and was the forerunner of the SS-4 (Sandal) MRBM (1,020-nautical-mile range) and SS-5 (Skean) IRBM (2,200-nautical-mile range), which became operational in 1958 and 1962, respectively, and are presently assigned to the Strategic Rocket Troops. [S]



GERMAN-TYPE V-2 ROCKET

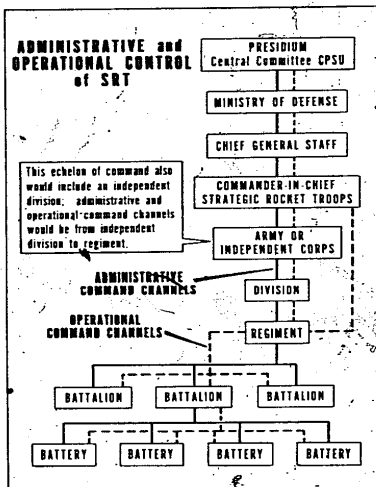
field between headquarters of these three services would be necessary for the development of joint operational plans. The same general pattern of staff organization probably is adhered to in lower SRT echelons, at least through regimental level.

#### Command and control

The administrative chain of command from SRT Headquarters to lower echelons follows established channels through each headquarters. Operationally, however, the chain of command is from SRT Headquarters to army or independent corps/division to regiment. Division headquarters are believed to be concerned primarily with administrative, training, and logistic matters.

An effective command and control system is one designed to allow for expeditious and secure transmission of alert or launch instructions to strike elements and intermediate operational commanders. The system also should allow for continuous monitoring of forces to ascertain their state of readiness and to insure that they are properly peaked and postured to cope with any contingency.

The decision to peak the force probably emanates from the Presidium of the Central Committee and is implemented by operational orders from the Ministry of Defense. Authority to issue these operational



orders may have been delegated, under certain emergency conditions, to the C-in-C of the SRT. Authority to issue the command to launch probably rests solely with the Presidium of the Central Committee. Logically, however, the Minister of Defense and possibly the C-in-C of the SRT, under certain well-defined emergency

conditions, have been vested with some degree of authority to issue the launch order.

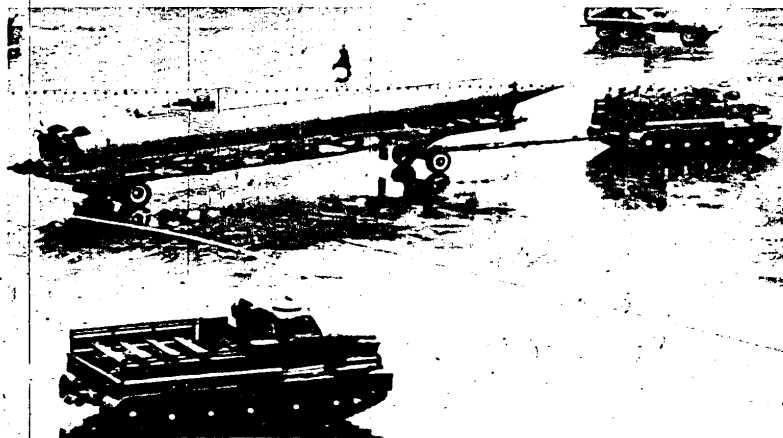
SRT Headquarters is reliably reported to maintain direct communications with headquarters of the IRBM/MRBM regiments—the basic operational unit charged with launching the missile. This does not imply that it is the only line of communications between SRT Headquarters and regiments because such alert and/or launch orders probably would be transmitted simultaneously by various means—secure telephone, landline, radio-printer/scrambler, and radio. Some of these means of communication probably go through army/corps (or equivalent) and division headquarters to regimental level.

Upon receipt of an alert order direct from SRT Headquarters, validation of the order presumably would be received from army/corps (or equivalent) headquarters. The order probably would be acknowledged by regiment to C-in-C, SRT, via the same channels and communication systems. Total estimated elapsed time for the issuance of a launch order by the Presidium of the Central Committee to the initiation of launch procedures at each site would be only 2 or 3 minutes.

Information on the control of nuclear warheads is scant. Missiles on site, however, are believed to have warheads in place. Refire or replacement warheads probably are drawn by the regimental or battalion commanders from regional depots under rigid Ministry of Defense control.

Readiness conditions for the SS-4/MRBM and the SS-5/IRBM are believed to be identical with their launch capability, probably ranging from a few minutes to several hours. An increased readiness posture undoubtedly is assumed during periods of international tension.

No concrete evidence is available regarding the specific procedures utilized by the SRT to preclude an accidental launch. Open source statements by Soviet leaders, however, indicate that they have grave concern regarding this problem. The Soviets' state-of-the-art probably is such that they have built-in safeguards in their early warning systems which are comparable or similar to those in the US systems. [END]



READINESS condition for SS-4 probably ranges from a few minutes to several hours. [S]

# MRBM HAS DUAL ROLE IN SOVIET STRATEGY

Greatest concentrations of sites are in western USSR extending from Baltic coast to Black Sea; flexibility and maneuverability of MRBM support to field armies are themes of Soviet writers

THE medium-range ballistic missile (MRBM) plays a dual role in Soviet strategy and doctrine—in strategic attack and in support of theater operations. Current Soviet doctrine for ground operations is keyed to exploitation of an initial and massive strategic strike delivered primarily by MRBM's and IRBM's (intermediate-range ballistic missiles). While the objectives of an initial strike are strategic, ground maneuver forces are expected by the Soviets to achieve success in the wake of destruction and general chaos resulting from the opening strategic attack. Some strategic missile fires probably are allocated to support the advancing ground forces.

A number of Soviet military writers have discussed the matter of flexibility and maneuverability of MRBM missile support to the field armies. During the deployment of surface-to-surface missiles in Cuba, extensive use of readily available mobile missile support vehicles and other equipment was believed to indicate a possible long-range Soviet plan to maintain the operational, 1,020-nautical-mile MRBM (SS-4) as a road transportable military weapon.

## Early deployment

Most of the Soviet MRBM launch sites were deployed in 1959-60, a move possibly sparked by the beginning of deployment of nuclear delivery means in some NATO countries. The Soviet MRBM launch sites were first identified along the western and southern borders of European USSR. These sites probably were constructed

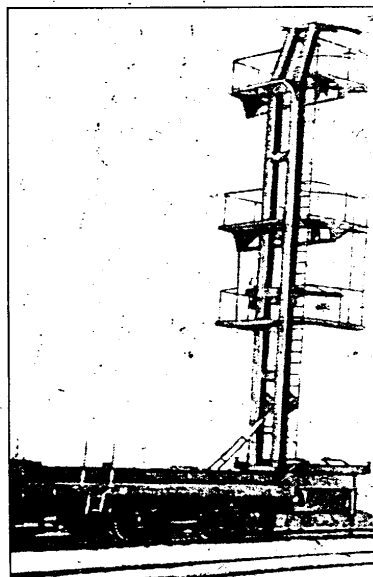
hurriedly and in less than optimum terrain conditions. The first MRBM weapons system, the 630-nautical-mile (SS-3) missile with nonstorable propellants, necessitated deployment as close as possible to the border to maximize target coverage.

Shortly after this MRBM was deployed, the (SS-4) a 1,020-nautical-mile MRBM, with improved characteristics, better site location, and modified launching facilities, was deployed. This deployment was followed by the IRBM (SS-5) weapon system with a range of about 2,200 nautical miles. Since the latter part of 1962, new IRBM and MRBM sites in a hardened environment are believed to have been deployed to reduce vulnerability from hostile missile and air strikes.

The greatest current concentrations of missile sites are in western USSR, extending from the Baltic coast to the Black Sea area (see map page 8). The remaining sites are dispersed eastward and rapidly diminish to a few scattered sites in southern USSR and terminate in a small cluster of sites in the Far East. This deployment provides the Soviet Strategic Rocket Troops with a substantial strategic threat that can cover targets throughout continental Europe, and in the United Kingdom, North Africa, Japan, Okinawa, Formosa, and Alaska.

## Tactical role?

Tactically, the MRBM sites are employed as fixed long-range nuclear artillery. In a brief period in the fall



MISSILE-launcher-erector car utilized by the Soviets in installation of their MRBM's. [S]

of 1962, however, MRBM launch equipment was deployed in Cuba with a minimum of construction effort and equipped with the 1,020-nautical-mile missile, which had been previously identified in Moscow parades as an MRBM. A feature considered significant was the amount of transportability that had been built into the weapon system—missiles, transporters, erectors, checkout vans, communications vans, control vans, and generator vans.

Construction of another type of site also was observed in Cuba, but no missile was identified with it. The permanent nature of this site and the amount of construction required for deployment indicated, however, that the site probably was designed for the IRBM weapon system and its somewhat more complex associated equipment.

## Rocket troop deployment

Missile units of the Soviet Strategic Rocket Troops, which are deployed entirely within the USSR, have the



initial mission of covering such targets as the following:

- Nuclear production and storage facilities.
- Major airfields and naval bases.
- Governmental and military control centers.
- Economic objectives of major importance to the enemy.

Subsequent to the initial deployment of SS-3's along the western border of the USSR, the SS-4's and its follow-on, the SS-5's, were deployed farther from the border. The Soviets apparently realized that restriction of strategic missile deployment to interior USSR provided adequate protection from enemy intelligence and afforded the opportunity to combine the defense

able for personnel to continue operations.

Apparently, the Soviets concluded that optimum location for an alternative site would be much like that for a primary siting area in the two following respects:

- About 15 kilometers from a regiment's primary siting area.
- In a forested area for camouflage and deception purposes.

In view of the difficulties involved in moving missile units to alternative sites, however, the Soviets in general are believed to have expected that the greater proportion of missile strikes would be launched from primary siting areas. The concept of alternative sites appears to have been developed

"In order to insure the constant readiness of the nuclear-missile resources of an operation, front missile units must have missiles with a range of 1,000-1,200 kilometers. With operational missiles of such a range the commander of a front can carry out a shift of fire with all the missile resources of a front in the course of a front operation throughout its entire depth.

In addition, we consider it expedient to strengthen a front with missile units which have a range of 2,000-2,400 kilometers. With such missile units, front commanders will be able to organize a shift of nuclear-missile strikes with the aim of annihilating the most important operational and strategic objectives in the theater of combat operations. Together with a long range, missile armament should have a high degree of mobility of fire and of march. Even for missiles with ranges of 500-600 kilometers and 1,000-1,200 kilometers, the requirements of mobility remain extremely strict. These requirements should correspond, in our view, to the requirements of mobility imposed upon missiles of operational-tactical and tactical designations.

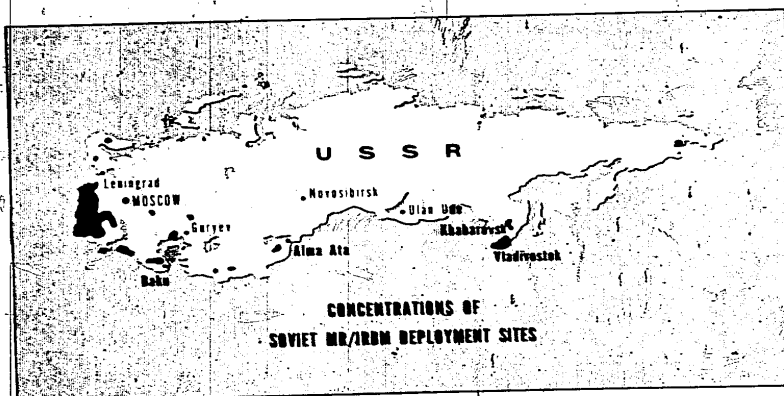
These ideas appear never to have been implemented. Nevertheless, writing in August 1961, he stated:

"A front has (tactical and operational-tactical) missile weapons capable of combating the enemy's nuclear means, disposed within the limits of both the tactical and the operational depth. In case of need, large missile units and units of the missile troops of the High Command may also be called in to combat the enemy's nuclear means on behalf of a front."

#### Mobility factor

Considering the Soviet tendency to utilize currently produced equipment wherever possible, the 1,020-nautical-mile missile seems a likely candidate to be the basic element of such a tactical MRBM model in the future. Soviet deployment of the 1,020-nautical-mile missile in Cuba revealed unusual capabilities for weapon system mobility as well as adaptability to existing terrain conditions.

Some Soviet planners apparently believe that development of a mobile, medium-range ballistic-missile system would solve many problems, not only for the Strategic Rocket Troops, but also for the ground forces. [END]



of missile units with the over-all defense network of the country.

#### Alternative sites

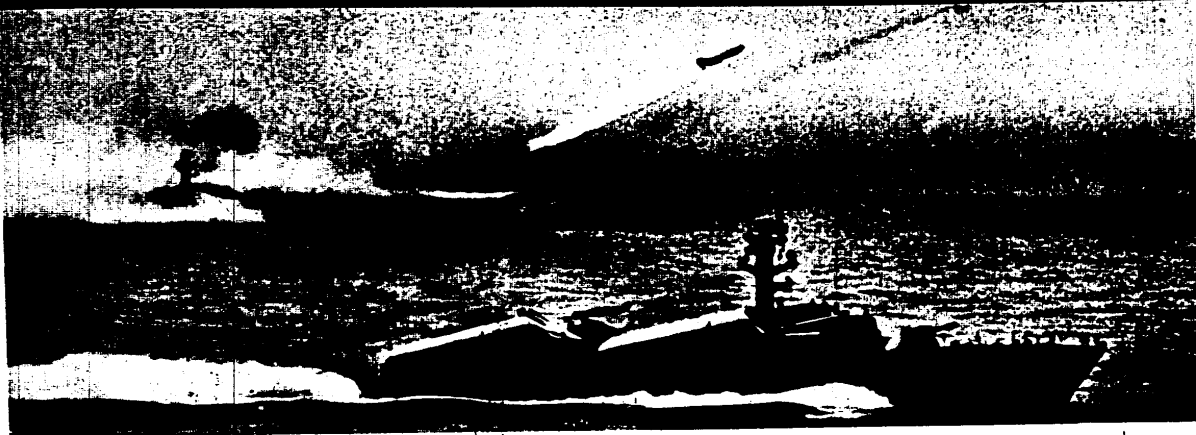
In the early 1960's, Soviet planners probably gave serious consideration to the concept of alternative sites for MRBM units. Possibly, they considered that the need for the relocation of a MRBM regiment might arise under such conditions as the following:

- Inability of the battalion to fulfill its target missions because of hostile fire.
- New target data that could not be fulfilled from a particular primary area.
- High radioactive contamination of an area that might make it unten-

able concurrently with, if not prior to, the deployment of MRBM's to soft sites in the USSR.

By 1961, Soviet planners apparently had decided that the nuclear-missile weapons of the theater forces were inadequate to support a full-scale operation. Mobility of motorized rifle and tank divisions had been increased many times, allowing the depth of front offensive operations to be extended to 1,000 to 2,000 kilometers, embracing the entire depth of the West European theater of operation. The missile troops of a front were then unable to inflict a simultaneous nuclear strike on the whole depth of an operation of the front.

Prior to May 1961, Chief of Artillery Marshal Varentsov said:



LARGE guided missile motor boat (PTFG) "Osa" Class. During 1964 East German and Polish Navies were operating units of this design. [S]

## EAST EUROPEAN WARSAW PACT NAVIES CONTINUED PROGRESS IN 1964

Five navies—the East German, Polish, Rumanian, Bulgarian, and Albanian—displayed additional evidence of patterns of activity previously set and expected to continue in 1965. East German navy, first to have missile capability, set the pace while Rumania and especially Albania lagged behind.

IN 1964, naval activities of the East European Warsaw Pact countries were characterized by a continuation of the earlier trend set toward over-all improvement, especially in the Baltic area. The East German Navy continued to lead the group, but the Poles demonstrated an increasing willingness to "keep pace." In the Black Sea, moderate Bulgarian progress in naval development contrasted with a pronounced Rumanian stagnation. Albania, isolated from Warsaw Pact support through its own choice, continued to experience a deterioration in naval capabilities, especially within the submarine arm.

Combined Warsaw Pact exercises occurred in both the Baltic and Black Seas, as in past years. Somewhat unique was the reported involvement of the Hungarian River Guard in combined river crossing exercises with Soviet forces in August. The East German and Soviet Navies continued

their coordinated surveillance operations at the Baltic approaches and, for the first year, the Poles participated in this activity on a regular basis. Amphibious capabilities of the Communist Baltic navies showed a distinct improvement and there were indications that a corresponding development might occur in the Communist navies of the Black Sea.

### East German Navy

The East German shipbuilding programs which gained prominence in 1963 continued into 1964 and some additional projects were undertaken. Series production of "Hai" Class submarine chasers (PC) did not materialize, but the prototype of a new version of this design did appear toward the end of the year. The single "Robbe" Class tank landing ship (LST), completed in 1963, became the first of a series as anticipated. By the end of 1964 at least four addi-

tional ships of this class were operational.

With an inventory of 17 amphibious units in the navy, the East Germans are expected to develop amphibious troops. In this respect, a 1964 report that Captain Heinz Jordt, Chief of the Coastal Border Brigade, was studying at the Soviet Naval Infantry School at Yyborg was of special interest. For some time there has been evidence of a continuing controversy within the East German Ministry of National Defense over whether the navy or ground forces would command the amphibious force. The frontier guard beach patrol personnel, who were incorporated into the navy's Coastal Border Brigade in 1961, had been regarded as a potential forerunner of amphibious troops. Presumably, Jordt's Coastal Border Brigade troops will be used both for amphibious operations and coast defense.

The navy victory on this controversy

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(MSF) and two "Habicht" Class MSF's were not in service throughout most of the year, and only 31 of the 36 "Schwalbe II" Class small minesweepers (MSL) were noted in operation.

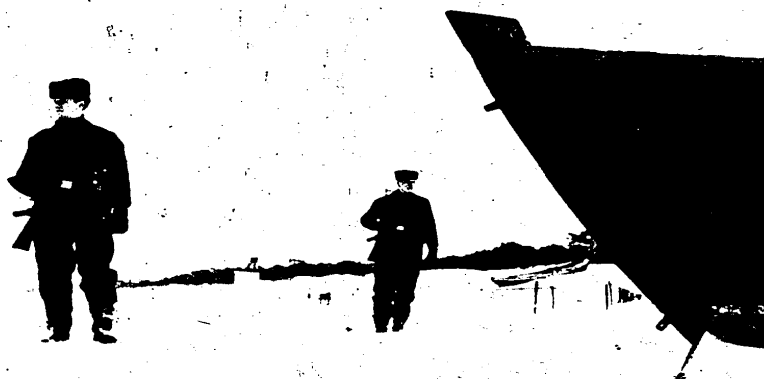
The absence of these ships from their normal operating areas may be related to repeated rumors that some MSF's were to be "mothballed." Whether these rumors are true, or the missing units are merely undergoing extended refits, remains an enigma at this time. Some ships are known to have been backfitted with additional electronics gear to enhance their surveillance capabilities.

The continuance of surveillance operations is anticipated now that Johannes Streubel has become Chief of Staff of the Navy. It was while Streubel was Commander of the Fourth Flotilla that intelligence collection and surveillance of the Baltic approaches were accepted by that force as a principal peacetime function. His elevation to the naval staff level was merely one more indication of an increasing East German commitment to this type of mission. The earlier selection of an intelligence officer, Willi Ehm, for the post of Chief of the People's Navy cast the die for this role. Both Streubel and Ehm were promoted during 1964. Streubel to rear admiral in July and Ehm to vice admiral in May.

Throughout the year the East German Navy continued its surveillance patrols of the Fehmarn Belt. The survey ship (AGS) *Hydrograph*, which is generously fitted with electronics, made a large number of excursions into the Danish Straits. At least some of these expeditions can be matched with concurrent NATO country exercises.

Training cruises, out of the Baltic, were undertaken by two "Riga" Class destroyer escorts (DE) and two "P-6" Class PT's. These were only the second and third exits of the Baltic by East German combatant ships. The first occurred in 1963 when two DE's exited briefly. The 1964 cruise by the "Rigas" was significant in that the ships were refueled at sea by the oiler *Riems*. This type of support operation is most uncommon for the East Germans and represents a step forward in the efforts of the navy to overcome operational reliance upon fixed facilities.

A part of this program has been the



BEACH patrol of Coastal Border Brigade. These troops may form naval infantry force. [S]

development of scattered operational bases to facilitate the dispersal of naval ships against the danger of nuclear attack. During 1964 the new base at Bug, on Ruegen Island, was put into operation. Formal facilities are few but there is a great deal of water area on both sides of the peninsula, and behind Hiddensee Island, where support ships and combatants can scatter. Development of the base began in 1957. At present many units of the Sixth Flotilla operate from the Bug area.

Related to this policy of improving dispersal has been the formation of several independent mobile commands, including the Harbor Construction Company, Motorized Communication Company, Frogman Detachment and Chemical Warfare Platoon. Particularly significant among these groups is the new Special Command Detachment, a missile group at Kuehlungsborn. The type of missile involved is not fully known, but evidence strongly suggests it is Kennel (SS CD 1) a coastal defense weapon. This command is still small, consisting of only two launch platoons with three missiles each, and probably is still more of a training group than an operational element. This fully motorized unit probably is the only coastal defense missile group in the East German Navy.

#### Polish Naval expansion

Recent evidence of expansion noted in the Polish Navy continued into 1964. The pattern was clearly set as

early as 4 January when the Polish press announced the commissioning of two Polish-built warships and one Soviet transfer. This incident was significant in that no indication was given of the identity of the new ships. In the past the Poles have always been quite explicit in their coverage of new warship commissionings. The vagueness connected with the January additions was taken as a possible indication that the ex-Soviet ship was a unit of a particularly sensitive type. Subsequent information established that a second "W" Class submarine, *Sokol*, had been added to the Polish Navy in May. In light of the 1962 press coverage given the delivery of the *Orzel*—the first Polish unit of the "W" Class—deception probably would not accompany delivery of an identical unit.

A logical explanation for the January vagueness was provided by the discovery that the Polish Navy had received two "Osa" Class PTFG's. The problem in equating the "Osa's" to the January event is, of course, the clear press references to the delivery of only one ex-Soviet unit. The possibility exists that the two PTFG's were delivered separately. In any event both of these units had been received by March 1964.

A photograph accompanying the press coverage of the January commissioning ceremonies showed clearly the masts of two *Krogulec* Class MSF's. Presumably these minesweepers were the two Polish-built units and would have been the third and fourth ships

of the class. Construction of these MSF's is believed to be continuing but at a rather slow pace. To date, only four are believed to be operational, although at least one other hull is known to exist.

The new minesweepers have led to a further increase in Polish naval activity in the Swinoujscie area. Throughout 1964, an average of three MSF's were known to have been constantly operating out of Swinoujscie. Most of the 16 MSF's apparently have shared in this assignment on a rotating basis.

Beginning early in the year new "Polnocny" Class LST's also began arriving at Swinoujscie, and by the end of the year there were at least six in commission. The Polish Navy is believed to possess at least two other ships of this class but they have not appeared at Swinoujscie.

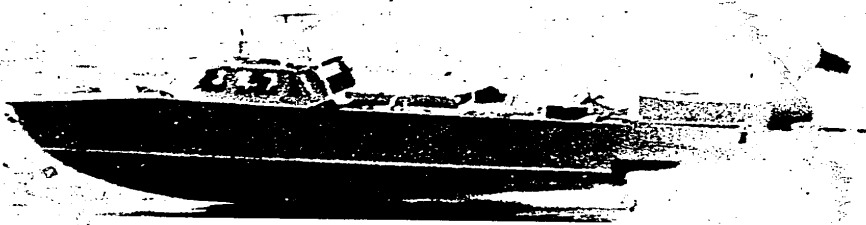
Series construction of "Polnocny" Class units continued throughout 1964, and by midyear an estimated eight ships had been transferred to the Soviet Navy. The first Soviet unit is believed to have undergone extended

ratio, at this time, is not predictable. The building rate is estimated to be about 10 annually.

The increased number of Polish ships operating out of Swinoujscie came as no surprise. It had long been anticipated that the national pride of the Poles would drive them ultimately to assume the responsibility for off-shore defense in western Poland. The only concrete Polish involvement in such operations, however, had occurred during the Cuban Crisis of 1962. Particularly significant, therefore, was the Polish Navy effort to share with the Soviet Navy, throughout the year, the responsibility for surveillance operations south of The Sound. For the most part the participating Polish ships were MSF's, although a "Kronshtadt" Class PC occasionally was employed.

In preparation for these reconnaissance operations at The Sound, a general program of backfitting the T-43 Class MSF's with additional electronics gear has been undertaken. These refits are carried out simultaneously on three ships at Gdynia.

evidence throughout 1964 that the Poles are willing to extend their intelligence collection activities into the Danish Straits. On occasion, mine-sweepers, relieved of picket duty south of The Sound, circled Zealand before returning to Swinoujscie, presumably on ELINT collection missions. The survey ship *Baltyk* also operated in the Danish Straits on several occasions, probably on similar missions. Furthermore, six or more cruises by the training ship *Gryf* were made through the Danish Straits during the period June through September. Ordinarily the *Gryf* is used for midshipman cruises at that time of year but the large number of separate exits was highly unusual. The appearance of a great deal of new electronics gear suggests that this ship is being used for dual missions, intelligence collection and training. Not all Polish operations out of the Baltic during the year involved intelligence collection; many exits were merely for routine training purposes, including operations in the Kattegat by the submarines *Sep* and *Orzel* in June.



EAST Germany has introduced the "Illis" Class PY (above) into its naval inventory. This design became operational during 1964. [S]

trials in Polish yards from at least February through June. In late June or early July this unit and about six sister ships were accepted by the Soviet Navy and commissioned. An eighth Soviet LST continued to remain in Polish ports through the year's end. Whether this unit is a particularly troublesome ship or a new version requiring extended trials, is not known. In addition to these 16 ships, at least 8 more hulls had been started prior to the year's end. The ships now under construction probably will be apportioned between the Polish and Soviet Navies, but the

Also related to this new surveillance function was the recent appointment of an intelligence officer, Commander (*Komandor Porucznik*) Jan Rek, as Commander of the Minesweeper Flotilla of the Sea Defense Region command. This assignment pattern follows the East German trend of placing surveillance activities in the hands of intelligence specialists.

Repeated rumors that the Soviet Navy is planning to depart Swinoujscie in the near future suggest that an ever-increasing Polish involvement in the operations at The Sound can be expected. Indeed, there was strong

The increased scope of recent Polish naval operations may have been behind the September announcement of the formation of two new enlisted training schools. Both provide a 1-year course for civilian youths or conscripts to qualify for career status as petty officers and for officer candidate school. The new Junior Commanders School is open to those having completed 9 years of schooling; the Career NCO School is for those with only a 7th grade education. The purpose of each school is to encourage the permanent retention in naval service of a higher percentage of the best per-

connel. They are, therefore, another example of the new commitment of the Polish Navy to a larger and more active role in the defense of the country.

#### Bulgaria's gradual improvement

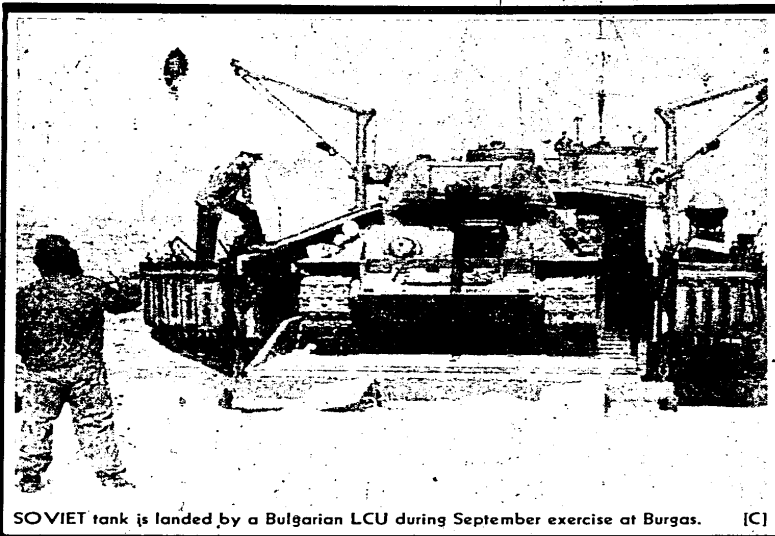
The pattern of activity of the Bulgarian Navy during 1964 suggested a continuation of the policy of gradual improvement rather than dramatic growth. Observations during the year established that a total of six "S.O. 1" Class SC's had been delivered to the Bulgarian Navy, and apparently the two old Artillerist Class PC's had been decommissioned. The two remaining PC's, the "Kronshtadt" Class ships, had their armament modified through the removal of the forward dual-purpose gun mount and the substitution of three MBU-1800-type ASW rocket launchers. The over-all result of these developments has been an improvement in the ASW equipment of the Bulgarian Navy.

With the improvement in inventory, the Bulgarian Navy sought to advance its capabilities through practical training. As a part of this program a combined ASW exercise was held with Soviet Navy units off Varna, on the Black Sea, in June.

A far larger and more significant combined Warsaw Pact exercise, involving Bulgarian, Rumanian, and Soviet forces, was held in the more southern Burgas area in September. During these maneuvers, which emphasized amphibious operations, every active Warsaw Pact country defense minister, or his deputy, was present. The emphasis of the exercise and the accompanying publicity were reminiscent of the October 1962 maneuvers at Swinoujscie, which foretold an amphibious buildup in the Baltic.

Especially interesting in the press coverage of the September exercise was a reference to motor torpedo boats from the Bulgarian, Rumanian, and Soviet Navies operating together under the command of a Soviet officer. A similar incident is known to have occurred in the Baltic some years ago, but at that time, there was no apparent pattern indicated. The two incidents, however, may indicate a practice of grouping similar ship types under one command during Warsaw Pact operations.

Such a pattern holds significance in light of a press item connected with the celebration of Bulgarian Navy Day in August. This item referred to



SOVIET tank is landed by a Bulgarian LCU during September exercise at Burgas. [C]

a Rear Admiral V. A. Gushchin as Chief of the Soviet Training Mission to the Bulgarian Navy and Representative of the United Command of the Warsaw Pact. The first title came as no surprise; it had been known that there was a Soviet mission attached to each active Warsaw Pact member navy. The indication that the senior officers of these missions served in a dual capacity in the Warsaw Pact organization, however, is new. The grouping of ship types during combined exercises and the Warsaw Pact role of the Soviet advisors suggests that these officers may have authority to command combined naval forces locally, under the Warsaw Pact organization, during times of crisis.

Formal naval contacts between the Soviet Union and Bulgaria were further advanced during 1964 by the signing of an agreement covering the exchange of ship visits. Implementation of this agreement began in August 1964 when the Soviet cruiser *Mikhail Kutuzov* and destroyer *Naportstny* visited Varna to participate in the Navy Day review. A group of Bulgarian naval ships returned the visit at Sevastopol in December.

#### Rumanian naval stagnation

Like the Bulgarians, the Rumanians concluded an agreement covering the

exchange of naval visits with the USSR during 1964. The Soviet Navy implemented the agreement by sending the guided missile cruiser *Dzerzhinskiy* and destroyer *Plamenny* to Constanta on a 4-day visit in August to participate in ceremonies attending the 20th anniversary of the liberation of Rumania. The Rumanians are not known to have returned the visit.

The occasion of the Soviet visit and other naval ceremonies during the year identified Vice Admiral Vladimir N. Alekseyev as Chief of the Soviet Advisory Mission to the Rumanian Navy. The seniority of this officer, a former Chief of Staff of the Baltic Fleet, is somewhat unusual in light of the small size of the Rumanian Navy and the recent lethargy of the Rumanian Government toward naval development. Apparently, a policy has been established of assigning a Soviet adviser of the same rank as the commander of the local navy. This would indicate a consideration of seniority consistent with the suspected role of each adviser as the senior Warsaw Pact officer in the locality to which he is assigned.

A demonstration of the unwillingness of the Rumanian Government to carry even the costs of its present military forces occurred in December, when the reduction of the term of

conscript service was announced for most branches from 24 to 16 months. Only the navy retains the 2-year service requirement, and this represents a reduction from the 3 years which had applied until 1964. Despite the longer term of service in the navy, it will not provide adequate time for conscripts to acquire, and make use of, the technical skills required for service aboard ship. This should lead to a progressive deterioration in the capabilities of the Rumanian Navy.

The prospect of reduced naval capabilities apparently is not a matter of great concern to the Rumanian regime. In fact, there has been a continuing reduction in the number of ships operated by the navy. This trend, combined with the long absence from operations of the destroyers and submarines, suggest that all major combatants have been dropped from service. This situation leaves the Ru-

rather than a deliberate deemphasis of military activity. The fact that the Albanian Navy achieved a generally higher level of naval activity in 1964 than in the two preceding years indicates a continued concern with offshore defense. This increased activity, primarily involved surface ships on security patrol duty. The level of submarine activity was further reduced during 1964 and the resulting reduction in underway training must necessarily contribute to a progressive deterioration in the capabilities of that arm of the navy. The Chinese Communists have not yet proved themselves able to support the Albanian Navy adequately. A continuing loss in capabilities is to be expected, therefore.

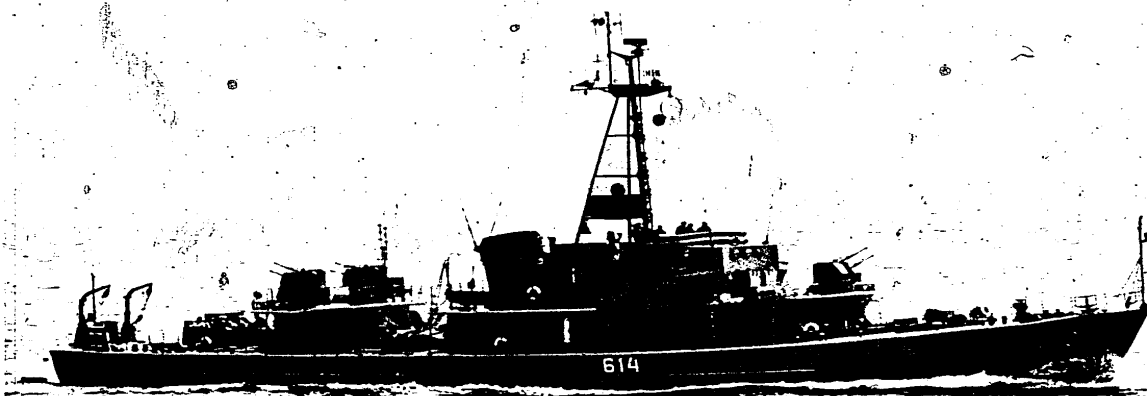
#### Over-all summary

The trends noted among the Eastern European Warsaw Pact navies during 1964 show every indication of

flective of the preferential treatment Admiral Verner has been able to preserve for his service through the years.

Largely because of the ability to procure the needed appropriations, the East German Navy regularly has been able to set the naval pace among these Eastern European countries. The Soviets have fully cooperated in assisting the East Germans to develop their navy, even to the extent of making missile weapons available. In part, the USSR may be seeking in this manner, to stimulate the Poles into expanding their own naval forces to a point where the Soviets can turn over the responsibilities of their Swinoujscie command to the Polish Navy. In 1964 the Poles took clear steps in that direction.

The interesting bits of information gathered during the year on the operational organization of naval forces within the Warsaw Pact, were par-



**MINESHIP** of new class MSF, *Krogulec*, made expanded Polish operations possible in western waters and the Baltic approaches. [S]

manian Navy with only relatively small ships suitable for no more than local defensive operation. There apparently is no intention to increase the size of the navy although some back fitting of additional electronics gear has occurred on many of their minesweepers.

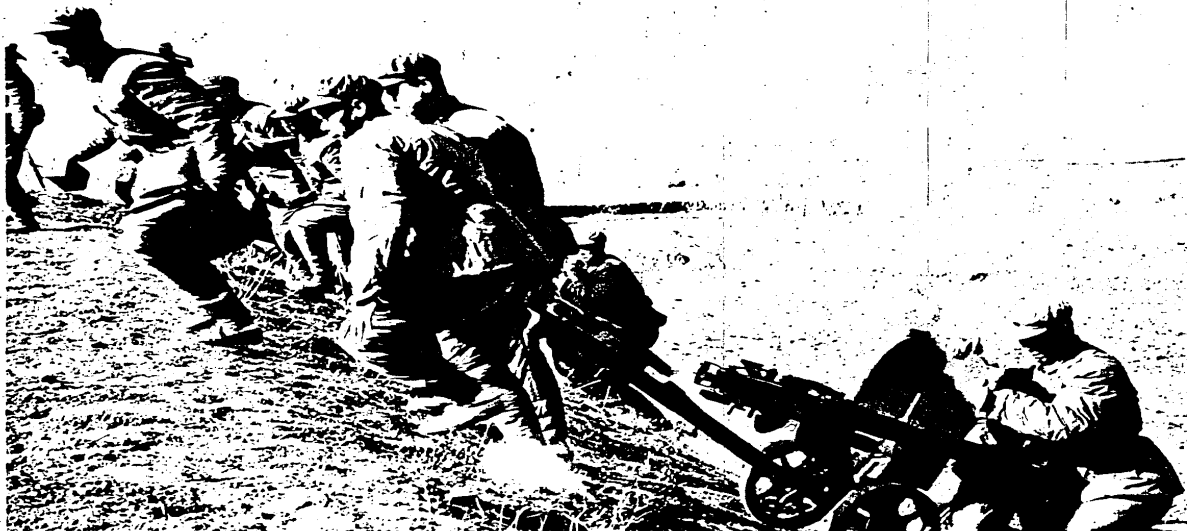
#### Albanian naval deterioration

Like Rumania, Albania has been suffering a deterioration in naval capabilities. For the Albanians, however, this has been the result of the denial of adequate outside support

continuing through 1965. Of particular significance has been the inconsistency in the manner in which the East Germans and Poles are meeting the need to develop adequate forces of amphibious troops. The Polish decision to develop this capability with the ground forces points up the clear domination which that branch has exercised over military affairs in the country, to the detriment of steady naval growth.\* In contrast, the apparent East German decision to develop the amphibious capability within the navy is, once again, re-

ticularly timely. The increasing capabilities of most Eastern European Warsaw Pact navies make effective organizational control over combined forces a matter of increasing importance. Apparently the Soviets have responded to this need and initiated the establishment of the necessary machinery to make full use of the improving naval forces of the cooperating Warsaw Pact countries. [END]

\*See "Polish Amphibious Forces are Remolded and Updated," March 1965 issue.



DIRECT fire-support element of the Chinese Communist Army's "Four Elements in One Unit" races forward during training exercise. [C]

## CHICOM TRAINING FOR WAR BASED UPON 'SIX TACTICS' OF LIN PIAO

Defense Minister devises methods to implement leader Mao Tse-tung's theory of warfare; close fighting preferred, with emphasis on 'last 200 yards' in combat; under present conditions, CCA doctrine considers many small victories equal to a big one and much better than a major defeat

**M**ARSHAL Lin Piao, Minister of National Defense and one of Communist China's more able military commanders, is credited with finding a practical way to implement Chicom leader Mao Tse-tung's theory of warfare. Lin's "Six Tactics" are regarded by the Chinese Communist Army (CCA) as the most concentrated, comprehensive, practical, and lively manifestations of Mao's theory. These tactics are not new but are being reemphasized now as the basis of CCA training for war.

According to Mao, the success of the Chinese Communist Army depends upon its concentration of numerical superiority to insure defeat of the

enemy in detail while, at the same time, preserving the CCA's own force. The CCA leaders accept the fact that in modern warfare—for some years at least—the army will not be so modern as the "forces of imperialism." In this situation, military leaders believe the enemy must be annihilated by local concentration, avoidance—if possible—of major operations, selection of the enemy's weak spots, and maximum use of surprise. This mixture of boldness and caution—of militancy and moderation has led to considerable reexamination of CCA tactics to find those best suited to execution for the over-all aim of annihilating the enemy.

The Chicoms have given Lin's "Six Tactics" the following designations:

- "One Point, Two Sides"—attack the enemy's weak spot concurrently with feint and envelopment actions.

- "Four Fast, One Slow"—rapid preparatory actions, but deliberate selection of the right moment to attack.

- "Three-Three System"—arrangement of the squad into three combat teams.

- "Four Elements in One Unit"—an attack force of assault, fire-support, engineer, and reserve elements.

- "Three Fierce Movements"—fierce blow, fierce advance, and fierce pursuit.





GRENADE-THROWING practice is one of the important phases of the training that is given to personnel of the ground forces of the People's Liberation Army. (C)

• "Three Situations, Three Tactics"—conduct of all battles according to enemy strength, locality, and time.

The CCA claims that the "Six Tactics" are especially valuable in view of present circumstances—while national self-reliance continues to impose limitations on military modernization, and while political consciousness is the decisive factor in war. The superiority of man-over-weapons theme has brought at least 3 years of insistence on the importance of the last 200 yards in combat. Close fighting is preferred, and "distant fighting"—the mobile employment of combined forces and tactical nuclear weapons—is to be avoided. CCA leaders realize that the natural desire of the revolutionary soldier for offensive action must be tempered by a strong sense of what is practicable—numerous small victories are as good as one big victory, and much better than one big defeat.

In training, however, the troops are instructed to apply these tactics with flexibility because each situation and each enemy will have different characteristics. The Chicomos realize that some variation must occur in application, but the principles embraced in the "Six Tactics" will direct CCA action at all levels (from army to squad) and in all situations (from

limited war to the covert support of insurgency).

#### "One Point, Two Sides"

This simple expression is used to convey the idea of attacking a weak spot of the enemy with a heavily superior force, while at the same time conducting feint and envelopment movements. "One point" is the concentration of the bulk of the attack force to achieve penetration and cause disruption as the first phase of annihilation.

The CCA usually expects to detect weaknesses in the enemy defenses to the flanks of a position and if possible in the rear. Accordingly, CCA commanders are urged to seek their main point of attack at either of these places. "Two sides" means only that offensive movement must be in at least two directions. When troop availability, terrain, and enemy disposition permit, three or four "sides" must be undertaken.

Cooperation and timing between the attack forces are vital factors if the enemy is to be annihilated and not just frightened away. Once the "point" has been formed (preferably parallel columns in depth "like a big-pointed knife") and disposed on a narrow front, the "sides" should

attack first. This will assist in obscuring the real aim of the attack and also allow envelopment, flanking, or infiltration elements to reach positions from which they can contribute most to the annihilation. If the original "point" fails and one of the secondary attacks is making headway, then the main thrust may be switched to the favorable "side." CCA doctrine, however, cautions against any change of plan once forces are committed, especially where large units are involved.

#### "Four Fast, One Slow"

In the CCA, this expression means that the advance to contact, deployment, exploitation after penetration, and pursuit of a retreating enemy should all be fast; but initiation of a general attack should be slow. Such doctrine appears to be slightly contradictory, but the Chinese understand it to mean that all combat preparations and combat actions must be rapid—only the final selection of the favorable moment for launching a general attack needs time. The emphasis, obviously, is on the avoidance of "unprepared wars" or any involvement which might go beyond the CCA's power of control.

The doctrine points up the simple fact that loss of initiative can disrupt the CCA just as it can any other army. In the case of the CCA, the disruption may even be greater, because this reluctance to act until all factors guarantee a quick, decisive battle—together with other tactical doctrine to be described hereafter—suggests that audacity and independent action by unit commanders will tend to be stifled under the need for detailed and meticulous planning in almost every situation. If the CCA can be continually harassed during its combat preparation phase and either denied or kept guessing about the enemy's strength, dispositions, and intentions, the final slow step of decision will become even more protracted, through what is a genuine CCA fear—tactical underestimation of the enemy.

#### "Three-Three System"

This arrangement pertains to the combat organization of the squad, especially for close combat and night fighting. On the basis of their political zeal, combat experience, and professional ability, the squad members are assigned to form three combat teams. Formation of these small

teams of three or four men within the squad, and acting under the direction of the squad leader, is supposed to have the following advantages:

- Greater control over the "last 200 yards," particularly in difficult terrain, where the team chief is available to help exercise command.
- Mutual support between teams and therefore greater cohesiveness within the squad.
- Retention of identity as a fighting unit by the small team if it is isolated.
- Facilitation of mutual instruction between individuals.
- Fostering of future squad leaders from among team chiefs.

These teams within the squad are commanded to practice field formations and movement so that ease of deployment and concentration will be improved. Marshal Lin has pointed out, however, that the "three-three system" is not merely a problem in troop formations; rather it is a measure that, if applied over the last 150-200 yards of the attack, will help to maintain momentum by improving control over all elements of the attack force in the assault phase.

#### "Four Elements in One Unit"

Ever since the final battles for the

mainland of China and the Korean War, CCA experience has been that in assaulting strongly fortified positions the shock force of a large number of men will not succeed alone. A complete defense system consisting of well-prepared field fortifications, comprehensive fire plans, and natural and/or artificial obstacles requires a combination of elements in the attack force. The "four elements" consist of an assault element, fire-support element, engineer element, and a reserve element. The "one unit" refers to the attack force made up of these four elements.

The close coordination of firepower, movement, and demolition operations, with an assault to open a gap in the enemy's defenses, is followed by deep penetration and by a succession of follow-up assaults—using several spearheads once through the breach—designed to annihilate the enemy force. Any of the four elements may be omitted or strengthened depending upon the nature of the enemy and the position he holds.

#### "Three Fierce Movements"

This slogan describes a combat style as much as any particular tactical

principle. It is the junction point in CCA doctrine where political motivation and professional skill—or the man and the weapon—come together as one fighting entity.

"Fierce blow" is the concentration of all possible fires of artillery, armor, and air components in preparatory bombardment, with most available firepower concentrated at the main point of attack.

"Fierce advance" stresses the need for immediate forward movement once the preparatory fires have lifted, with the aim of joining in hand-to-hand combat as quickly as possible. Mixing in close fighting reduces the CCA's technical inferiority, restricts enemy potential to employ tactical nuclear weapons, and leaves men face to face. In this situation, the thoroughly indoctrinated revolutionary soldier must win the day.

"Fierce pursuit" means maintenance of maximum pressure on a breaking enemy, when the only CCA instruction to its personnel is to move as rapidly as possible toward the sound of the firing.

The "three-fierce movements" is believed by the CCA to have been the feature of its combat style most feared by adversaries. "Fierce," by the CCA definition, means personal bravery based on revolutionary zeal combined with professional skill and cunning tactics. The CCA teaches that if the spirit of the movement is fully developed, the full function of modern technological characteristics of enemy weapons will be greatly reduced and eventually destroyed.

#### "Three Situations, Three Tactics"

This slogan stands for a principle that has been heavily stressed by Chinese military commanders of all times. It is often referred to in Mao Tse-tung's writings and urges the necessity of fighting all battles according to the strength of the enemy, the locality, and the time. It implies a clear realization of the complexity of modern warfare, the likelihood of rapid changes in the situation, and, therefore, the problems of maintaining momentum and retaining full control of operations. The CCA, considering these problems, has impressed upon estimators and planners the need to come up with suitable tactics based on relative strengths. [END]



THREE-MAN team is shown supporting another team of the same squad during CCA training. This exercise reflects how one of Lin Piao's "Six Tactics" is used. [C]

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SOVIET engineers construct bridge across river. Water-barrier crossing at relatively high rates of speed is stressed in Soviet doctrine. [S]

## SOVIET ARMY ENGINEERS EQUIP UNITS FOR MODERN WARFARE

Engineer establishment, which evolved from sapper and ponton bridge units in Czarist regime, now has responsibilities for river and gap crossings, mine warfare, position preparation, and road construction; resources have increased but still cannot sustain 100-kilometer advance per day

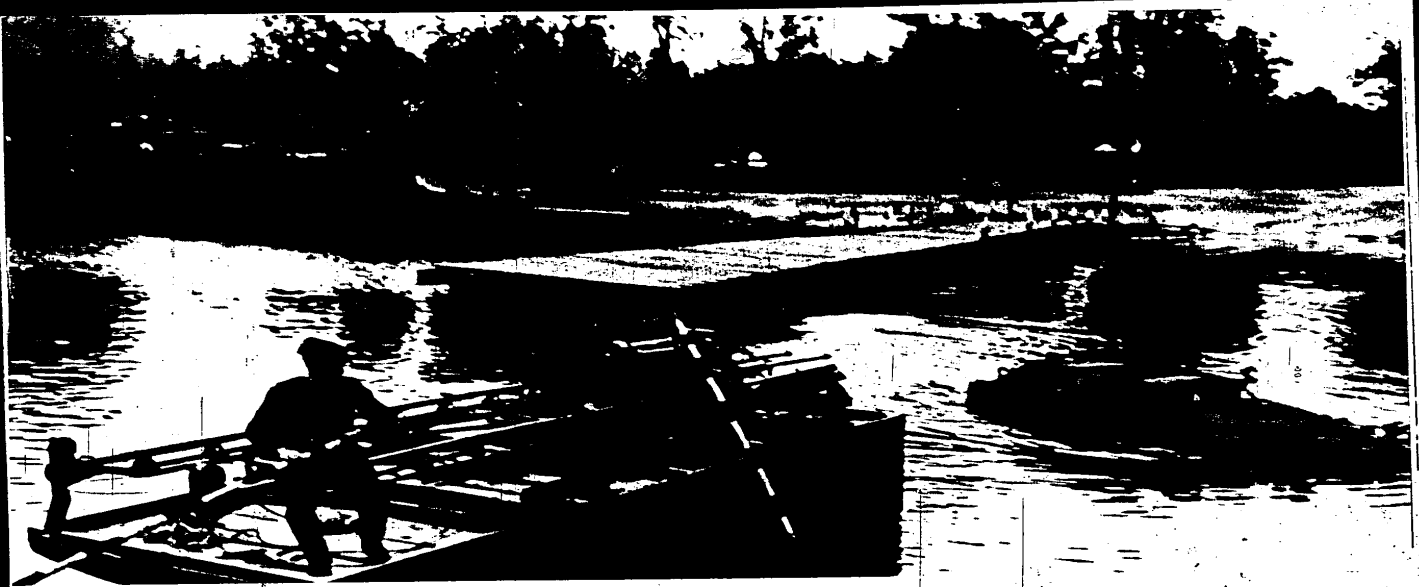
SINCE World War II, the Soviet Union has stressed modernization and mechanization of engineer troops to support a high rate of advance. Divisional and nondivisional engineer units, therefore, have been reorganized and reequipped extensively. New units that specialize in assault river crossing and position preparation have been formed, and now are organic to all field command echelons. Specialized engineer units also have become organic to missile brigades.

Engineer resources of Soviet line divisions, however, are still not suffi-

cient to support prescribed operational rates of advance over a protracted period of time. With typical reinforcements from army, for example, the crossing of only two minor water obstacles in one day would use all the bridging presently available to a division.

The engineer establishment of the Soviet Army has evolved from the Czarist system inherited by the Soviets in 1917. At that time, there were sapper and ponton bridge units at corps level and above but no organic engineer units at lower levels.

Engineer tasks below corps level were performed by infantry troops under supervision of engineer officers. These tasks usually involved field fortification and camouflage. Subsequent to a secret treaty with Germany in 1922, the Soviet Army adopted German military organization, which featured organic engineer units down to regimental level. This system still prevails. Motorized rifle, tank, and parachute regiments have organic engineer companies, as do missile brigades. Divisions have engineer battalions, armies have engineer regi-



ments and, although no *fronts* exist in peacetime, wartime *fronts* probably would have organic engineer brigades. *Fronts* and armies also have assault-crossing (amphibious) battalions and ponton-bridge regiments.

Soviet field service regulations state that: "Engineer troops consist of engineer-sapper, engineer-road, assault-crossing, ponton-bridge, engineer-position, and other special units." In addition to these units, which can be referred to as combat engineers, a Soviet *front* also would contain non-combat engineer units subordinate to the Deputy Commander for the Rear. These include railroad brigades responsible for construction and maintenance as well as operation of railroads in the *front* area; road service regiments that construct, maintain, and perform traffic control on routes and bridges in the *front* and army rear areas; and pipeline brigades that install portable pipelines from *front* depots and intermediate storage points to using units and POL dumps in the army areas.

At each level of command there is an engineer officer, usually referred to as the chief of engineers, who advises the commander on all engineer problems and who is responsible for the supply of engineer items. This officer also has direct access, through technical channels, to the engineer officer at the next higher echelon, and, this

line goes directly to the Chief of Engineers at the Ministry of Defense.

#### Organization for combat

Typical engineer allocation from *front* to army in the main effort would include a general purpose engineer battalion, an assault-crossing battalion, and a ponton-bridge regiment. An army would receive one or two general purpose engineer battalions from the *front* in a defensive operation, but it would not be expected to receive additional river crossing means. Similarly, typical allocation from army to line divisions in the main effort of an offensive operation would include a general purpose engineer battalion, possibly a ponton-bridge battalion, and one or two amphibious companies. In defense, divisions probably would receive more general purpose engineer support but no river crossing attachments.

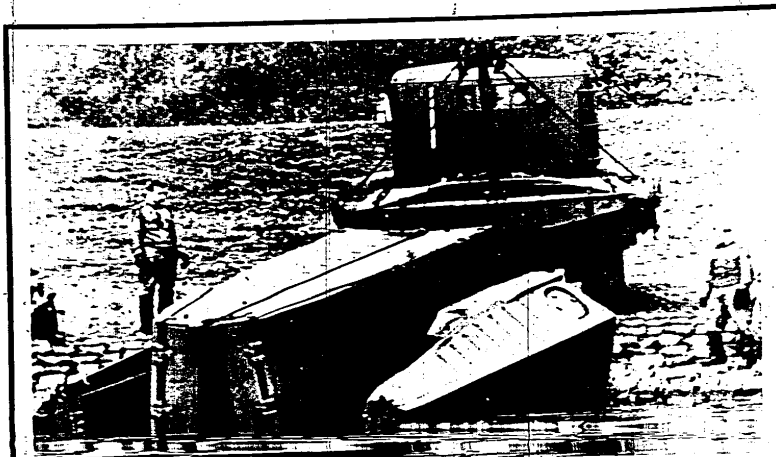
#### River crossing equipment

Water barrier crossing at relatively high rates of speed has been stressed in Soviet doctrine and training. Wheeled and tracked amphibians, heavy amphibious ferries, and various floating bridges are utilized in such assignments.

The tracked amphibious APC, 50p, has been seen with motorized rifle elements of tank divisions since 1959. The wheeled amphibious APC, 60p,

has been in motorized rifle divisions since 1962; nevertheless, only one regiment in either type division is believed to have organic amphibious carriers. Tank snorkeling also has been emphasized. But this method does not appear to move tanks across water barriers any faster than ferrying or rafting except under ideal conditions. Assault-crossing battalions of *fronts* and armies have wheeled amphibious companies equipped with a 6 by 6 amphibious truck, designated BAV by the Soviets. It is an improved copy of the US DUKW. But the BAV now is obsolescent and probably will be replaced with tracked transporters; however, it still appears in quantity during river crossing exercises. The vehicle is capable of transporting 28 troops, or an 85mm divisional gun with crew, or a 2-ton truck.

Tracked-amphibian companies of assault-crossing battalions and divisional sapper elements, employ the K-61, a large, unarmored, tracked, amphibious transporter. The K-61 can transport 40 fully equipped troops, or artillery pieces up to 152mm in size, and serves as a component for various ferries. For example, a light amphibious ferry, having a 9-ton capacity, is constructed by locking two K-61's side by side and extending a treadway across both vehicles. It can be assembled without making permanent modifications to the vehicles involved.



PMP bridge section shown being recovered by the Soviet KRAZ-214 ponton carrier. [S]

Another ferry, composed of two modified K-61's, and carried as organic equipment at all levels, is the heavy amphibious ferry or GSP. Two component vehicles of this ferry, left and right units, are linked together after entering the water; two large metal pontoons are then extended as outriggers for a deck space of approximately 40 feet by 45 feet and a 50-ton capacity. The GSP has hydraulically operated ramps on each side which permit operation between unprepared river banks.

The Soviets currently use two types of heavy pontoons for bridging and rafting. The older type, TPP, is used by divisional elements and by the general purpose battalions of the front engineer brigade and the army engineer regiment. The TPP has bow and center sections which are joined end-to-end to form a single floating pontoon. Steel channels and wooden planking are then laid across the pontoons to form the roadway. The 24 TPP sections carried by the divisional engineer and the general purpose battalions can be assembled into 200 feet of Class 50 bridge.\*

A newer pontoon, designated PMP and first reported in Group of Soviet Forces Germany, in late 1961, is issued to ponton bridge regiments at

front and army. PMP's are four-part folding pontoons that are joined to make a continuous roadway on the ponton decks. Both types of pontoons are used for rafting as well as bridging and with the large deck area of the PMP, it is assumed that bulky missile equipment would normally be rafted on PMP. All ponton elements have organic power boats for towing rafts and for moving bridge sections into position. The PMP set of only 16 bay and 2 ramp sections forms a bridge of approximately 390 feet. Vehicle and manpower requirements for the PMP, therefore, are greatly

reduced and the capacity is increased significantly.

#### Gap spanning

The Soviets use both tank-mounted and truck-mounted equipment for short-gap bridging. The tank-mounted assault bridge, MTU, is issued to divisional engineer battalions and engineer companies in all medium tank regiments. This bridge is mounted on a T-54 chassis and can span 40 feet at Class 50. The truck-mounted treadway bridge, KMM, also is held in the divisional engineer battalions and in the engineer companies of motorized rifle regiments. Each KMM section is approximately 23 feet long; two sections are rated at Class 50 but the class of the bridge probably decreases as sections are added. Tank-mounted, truck-mounted, and towed-scissors bridges also have been observed in use by Soviet troops, but none is presently carried as organic equipment.

#### Typical regimental crossing

Soviet doctrine requires a water barrier crossing at several points from the march to maintain momentum and avoid highly vulnerable concentration of forces.

Assault units seize bridges intact when possible and, preferably, make a hasty crossing from the march at several points. During the hasty crossing, the Soviets visualize reconnaissance elements in PT-76 amphibious tanks, infantry in amphibious armored personnel carriers, antitank elements mounted on amphibious scout cars, and tanks either snorkeling or moving on rafts and ferries. Re-

### ELBE IS BRIDGED IN 6 MINUTES

**B**ridging the Elbe River in 6 minutes is an exceptional feat even under ideal conditions and with specially-trained Soviet military personnel.

A bridging exercise, witnessed by members of the US Military Liaison Mission, took place northwest of Dresden, East Germany, where the Elbe is about 400 feet wide, 9 to 12 feet deep, and has a current of 3 to 5 feet per second. Both banks were revetted. Six powerboats moved to midstream from moorings along the east bank, and a column of 17 ponton carriers with PMP's moved parallel to the river. At 1209 hours, the ponton carriers backed to the edge of the river and released their pontoons into the water. The waiting powerboats moved to the pontoons which had been joined end-to-end by 1213. The bridge was swung across the river and a truck crossed, reaching the opposite shore at 1215, while the bridge was held in place by the powerboats. [S]

\*Bridge having a 50-ton capacity.

maining combat and support units cross on ferries or bridges.

If hasty crossing tactics fail, deliberate assault crossings are attempted, with leading elements assigned to establish a bridgehead. Only one regiment in each Soviet motorized rifle division is believed to be equipped with amphibious APC's at present—this regiment would make the assault crossing. It would be reinforced by a howitzer battalion, one or two anti-aircraft gun batteries, and ponton and assault-crossing platoons of the divisional engineer battalion. The regiment, which has an organic tank battalion of 31 medium tanks, would force a water barrier on its normal attack frontage of 10 to 15 kilometers. Two reinforced motorized rifle battalions would make up the first echelon for the river crossing.

Engineer support functions for the forcing of a water obstacle include: reconnaissance of the obstacle; equip, maintain, and camouflage crossing and approach routes; provide passages through obstacles in the water and on the banks; organize a rescue and recovery service, and protect crossings from floating mines.

A regimental zone in a deliberate crossing is divided into two sectors—one for each reinforced assault battalion. From the route of march, each battalion pauses for reorganization in covered departure areas 5 to 10 kilometers from the obstacle. Units then move to three assembly areas—two for APC's, and a third for crew-served weapons in each battalion sector. At the river, each battalion has two crossing sites—one for amphibians and another for ferrying or rafting. Moving to the barrier, assault companies initially are in column, but approximately 500 meters from the river, they deploy to make the crossing on a 1½- to 3-kilometer front. A 100-meter interval between vehicles is maintained and troops fire from APC's as they cross. Upon reaching the far bank, troops may or may not dismount depending on the degree of enemy resistance; however, K-61's must beach to unload weapons, men, and materiel. After the initial assault, priority for crossing is given to the battalion commander and his staff, the third motorized rifle company, the mortar platoon, the medical aid post, and some motor transport elements with ammunition. Assault companies are followed closely by units of the regiment's tank battalion and by sup-

CROSSING EQUIPMENT DISTRIBUTION							
<u>ORGANIZATION</u>	<u>PON- TON TPP</u>	<u>PON- TON PMP</u>	<u>MTU</u>	<u>KMM</u>	<u>FERRY GSP</u>	<u>TRACKED AMPHIB- IAN K-61</u>	<u>WHEELED AMPHIB- IAN BAV</u>
ENGINEER BRIG. (1 per front)	48						3
PONTON-BRIDGE REGT (2 per front, 1 per army)		72					4
ASSAULT-CROSSING BN (3 per front, 1 per army)					12	24	33
ENGINEER REGT (1 per army)	48						2
ENGINEER BN (1 per division)	24		4-5	2	3	23	
ENGINEER CO (1 per regiment)			3*	5†			

\*Tank Regiment.  
†Motorized Rifle Regiment.

\*Tank Regiment.  
†Motorized Rifle Regiment.

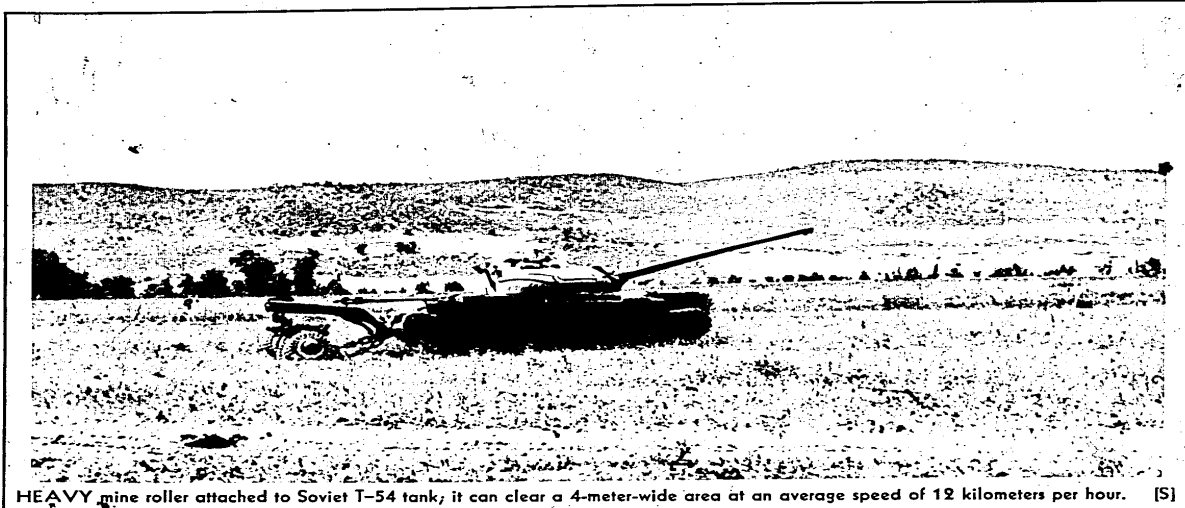
porting regimental and divisional field and anti-aircraft artillery. Other service elements of the battalion remain behind and cross with regimental service units.

The 50-ton capacity GSP ferries and rafts assembled from TPP pontoons initially are not ready for a crossing operation. Preparation of the GSP requires about 10 minutes while the heavy ponton raft, TPP, requires about 30 minutes; however, these can not be assembled until the near bank of the river has been cleared of direct

enemy fire. Crossing of tanks on rafts or ferries, as a result, may commence 30 to 60 minutes after the assaulting motorized rifle battalions begin to force the river. Ferrying and rafting of the tank battalion's 31 tanks are believed to require 1 to 1½ hours, utilizing 3 GSP's and 3 TPP rafts. Such an operation delays use of organic TPP's for bridging. As soon as practicable, however, rafts would be formed into a ponton bridge, and a regiment could cross an average barrier in about 3 hours. To



BAV wheeled, 6 by 6 amphibious transporter participates in river crossing exercise. [S]



HEAVY mine roller attached to Soviet T-54 tank; it can clear a 4-meter-wide area at an average speed of 12 kilometers per hour. [S]

achieve this, a bridge must be constructed early or the time element could be substantially increased.

Deliberate crossing, such as illustrated, has provided for passage of only one regiment using organic equipment from within the division. But normal engineer reinforcement from army would enable the division to cross a second regiment under almost identical conditions. The second regiment, on the other hand, would lack organic amphibious APC's and the rifle elements probably would cross in BAV's from the army assault-crossing battalion.

#### Snorkeling

Soviet development of deep water fording devices stems from the doctrinal requirements for daily rates of advance averaging 100 kilometers. Rapid water crossing by tanks is essential for successful exploitation of bridgeheads and for denying the enemy lucrative nuclear targets at ferrying and rafting sites. T-54 tanks, consequently, have been modified for snorkeling and newer models—T-55 and T-62—have factory-installed devices. Yet, the Soviet tank regiment appears to have only one battalion with a snorkeling capability.

Inherent drawbacks exist in snorkeling operations: engineers must prepare fording sites; river beds must be

free of obstructions; and slope irregularities must be corrected. Furthermore, problems arising during inclement weather can delay operations indefinitely. The Soviets, as a result, are assumed to prefer to raft or ferry assault tank battalions.

#### Mine warfare

Soviet engineers utilize minefields offensively and defensively. Antitank mines are used widely but antipersonnel and mixed minefields also are employed. Offensive minefields are used less extensively and are usually limited to suspected tank approach routes and to flanks of major friendly units. Defensively, the system of antitank minefields and other types of obstacles is combined with the antitank system of fire. Antitank and antipersonnel mines and obstacles are placed in front of the forward edge of the battle area and in the depths of the defensive position. Priority for minelaying, obviously, is assigned to those sectors most accessible to enemy tanks.

Mines are laid manually by pacing or by use of spacing cords, and with mechanical minelaying devices. Regardless of method, fairly standard patterns are maintained. Little deviation is permitted from the prescribed length, number of rows,

and density of mines for each type of field.

Mobile obstacle-placing detachments play a key role in mine warfare. Nucleus of the detachment is the engineer mobile obstacle platoon of the division engineer battalion and similar platoons in the general purpose engineer battalions. The platoon can be reinforced by nonengineer units when additional manpower is required. This platoon is equipped with four mine-laying vehicles, each towing or mounting a mechanical mine dispenser. Two mine-dispensing trailers also are assigned to each engineer company at regimental level.

Mine clearing operations also are conducted by Soviet engineers or by other troops under engineer supervision. Operations normally begin with reconnaissance to determine depth and extent of minefields, types of mines, patterns, and approaches. When a minefield cannot be bypassed, assault-breaching operations are initiated. Breaching is usually accomplished manually, by explosives, or by mechanical means. The manual method includes use of probes and electronic detectors. Explosive breaching is accomplished with Bangalore torpedoes, although the Soviets have experimented with rocket-propelled charges for fast breaching. The mechanical method employs rollers,



and dozer blades. A heavy roller attached to the front of a T-54 tank appears to have become standard equipment and is capable of clearing a four-meter lane at an average speed of 12 kilometers per hour. Three such rollers are held in each regimental engineer company. Firsthand experience in large-scale mine clearing operations is presently being acquired in Algeria by a detachment of Soviet army engineers who are assisting the Algerians in clearing vast minefields remaining from the civil war.

#### Position preparation

Traditionally, Soviet doctrine has emphasized the importance of trench systems and other field fortifications and shelters. With the advent of nuclear weapons, more attention has been given to overhead cover and construction of atomic shelters within defensive positions. Not only is this the concern of engineers at all levels, but also that of tactical units who receive intensive training in these areas. In spite of training these additional personnel, the Soviet engineers still have the responsibility to prepare major positions and to entrench weapons, equipment, and personnel. The Soviets have, therefore, equipped their position preparation units with a variety of machines to accomplish their tasks rapidly. A versatile heavy artillery tractor, for example, is used by the engineers as a ditching machine, BTM. With a blade attached, this tractor serves as a heavy dozer, BAT. Other heavy equipment also is employed by position preparation units.

Various types of prefabricated shel-

DISTRIBUTION of SOVIET ARMY ENGINEER UNITS by FUNCTION				
FUNCTION	FRONT	ARMY	DIVISION	REGIMENT
ENGINEER-SAPPER	ENGINEER BATTALION	ENGINEER BATTALION	ENGINEER COMPANY	ENGINEER COMPANY
ENGINEER-ROAD	ROAD & BRIDGE BATTALION	ROAD & BRIDGE BATTALION	ROAD CONSTRUCTION COMPANY	
LANDING-CROSSING	ASSAULT CROSSING BATTALION	ASSAULT CROSSING BATTALION	ASSAULT CROSSING PLATOON	
PONTON-BRIDGE	PONTON BRIDGE REGIMENT	PONTON BRIDGE REGIMENT	PONTON BRIDGE PLATOON	
ENGINEER-POSITION	POSITION PREPARATION BATTALION	POSITION PREPARATION BATTALION	POSITION PREPARATION COMPANY	
SPECIAL	WATER SUPPLY CO			
	CAMOUFLAGE CO (OR BATTALION)			

ters recently have been observed in the Group of Soviet Forces Germany. These shelters generally are arch-type, prefabricated concrete or corrugated steel, designed to be assembled in a deep trench and then covered with earth. Standard equipment included with the prefabricated shelters is heating and ventilating units. Obviously, heavy subsurface shelters have no place in a rapid offensive operation; however, Soviet troops are being trained in the construction and assembly of prefabricated units. Such shelters also are receiving more attention in Soviet planning for static defensive situations.

#### Roads and bridges

Engineer units exist at front, army and division level for road and bridge

construction. The mission of these units includes maintenance in addition to construction of roads and bridges in forward areas. These units are equipped with dozers, scrapers, graders, mobile sawmills, and in some cases prefabricated wooden and steel bridging material. Similar tasks in rear areas of a front or army are the responsibility of road service troops who are subordinate to the Deputy Commander for the Rear.

In forward areas, road and bridging units of combat engineers usually are assigned to an area of responsibility for the duration of an operation, but detachments from these units may receive specific task assignments. Their functions include construction of dirt and gravel-surfaced roads and the laying of cross-country routes. Bridging elements construct semi-permanent fixed bridges from local or prefabricated materials. They are not concerned with ponton bridging except to replace floating bridges—for removal forward—with fixed installations.

Engineer resources in Soviet ground organizations, at present, are insufficient to sustain an advance of 100 kilometers per day. The engineers will be more capable to meet the requirement when:

- More motorized rifle units are mounted in amphibious APC's
- Greater numbers of GSP heavy ferries are issued to tank units.
- Divisions are equipped with the heavy folding ponton bridge. [END]



K-61 tracked amphibious transporter loading a GAZ-63 cargo truck during exercise. [S]

# ENTER



FISHBED (C)

## FISHBED, EXIT 'BEANIE'

but sizable production was obvious. The key to the solution of the Beanie mystery came in early 1965

25X1 DIA

25X1 DIA

RECENTLY observed Mig-21 (Fishbed) [redacted] have contributed to the solution of a longstanding intelligence problem—the identification of "Beanie." This former enigma turns out to be Fishbed—the most modern high performance tactical Soviet fighter in operational units.

25X1 DIA

[redacted] positively identify Airframe Plant

aircraft was apparent, but what appeared to be an unusual rotor apparatus mounted atop the fuselage served to defy analysis and to merit an informal designation "Beanie." Continued sightings over the next 36 months resulted in the proliferation of "Beanie" theories—such as the equation of Beanie to a rotorcraft, to an air-launched fighter, to an air-to-

Hitherto, Fishbed production had been thought confined to Mikoyan's main production facility at Plant 21 near Gorkiy. In view of this assumption and in view of Plant 30's known involvement in the production of Ilyushin's Il-18 (Coot) transport, the discovery of concurrent Fishbed production at Plant 30 came as a surprise. However, the location of Plant 30 at Moscow Central Airfield did fit in with what was known about the beginning of the Beanie route, and



MYSTERIOUS object being towed, at night, through streets of Moscow, without rotor in 1965 (left), with rotor in 1963 (right).

[S]

30 at Moscow as a series producer of this fighter. The establishment of Fishbed production at a local facility, not previously known to be producing this aircraft, is seen as a ready explanation of the origin and nature of the unidentified canvas-covered objects which have been observed sporadically under tow through the Moscow streets. Ever since the first sighting in September 1960, the resemblance of the unidentified towed objects to fighter

surface missile, and even to a hoax on the Western intelligence community.

In 1964, Beanie not only was seen consistently without the rotor apparatus, but also a record number of 28 Beanie's were noted in the last month of the year en route from the direction of Moscow Central Airfield, via the streets of Moscow, to the Nizhegorodskaya Ulitsa, which leads out of town in a southeasterly direction. The object remained unidentified,

observers' description of Beanie's size and configuration did equate generally with that of Fishbed. The so-called rotor has long been considered to be non-aerodynamic in nature and now is further estimated to have related to the packaging and delivery of the earlier production units. The use of a non-Mikoyan plant (and a transport producer at that) remains inexplicable. The rotor is off, and Beanie is Fishbed. [END]

25X1

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## EASTERN EUROPEAN COUNTRIES LINKING COMMUNICATION NETS

First phase of an intra-telecommunications system probably will be completed by the end of 1967; this achievement and those expected to follow are largely attributable to three main coordinating organizations—OSS, CEMA, and OIRT; considerable military, civil, and political benefits expected

**T**ELECOMMUNICATION (telecom) facilities in Eastern Europe were either completely destroyed or considerably reduced in operational effectiveness during World War II. Immediately following cessation of hostilities, measures were instituted to restore normal domestic communications. The overall telecom developments within the

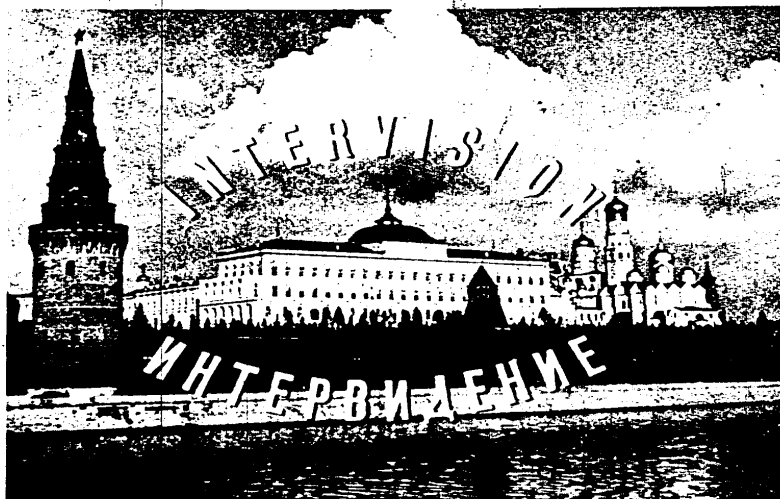
Warsaw Pact countries lagged behind those of the Western European NATO countries. Significant achievements, however, began to take shape about 1959, and since that time considerable progress has been made, especially in the establishment of a modern integrated Eastern European Warsaw Pact telecom system. Coordinated

efforts in this realm are geared to satisfy both civil and military requirements for automated telephone, telegraph, and data transfer, as well as television services.

The first phase in the extensive long-term (1959-1975) intra-network telecom development program is scheduled for completion by the end of this year. Success is largely attributed to the effectiveness of the coordinating organizations, which control post and telecom matters in the member nations. They are composed of: the Organization for Telecommunication Cooperation (*Organisatsiya Sotrudnichestva Svyazi*, OSS); the Council for Mutual Economic Assistance, (usually abbreviated CEMA); and the International Radiobroadcasting and Television Organization (OIRT).

### Telecom cooperation

Initiative for establishing OSS stemmed directly from the compounded problems which began in the Soviet-occupied Eastern European countries and the USSR during the early post-World War II rehabilitation period. The Eastern European countries were poorly organized, and most telecom restorations and expansion were carried out on an individual country basis. Authorities paid little attention to technical standards used in any other country, and the facilities



EACH member country of Intervision has an emblem; Soviet's depicts Moscow studio. [U]

used on many of the more important long-distance telephone and telegraph arteries were not compatible. As relations among the Communist countries expanded, the international telecom arteries were incapable of handling increasing traffic volume. Furthermore, the different technical standards adopted by each country would not permit orderly expansion of existing facilities. This situation became more critical after the Warsaw Pact was signed in May 1956. Military planners realized that efforts had to be devoted toward establishing common technical standards and developing new arterial networks of high-capacity cable and radio relay facilities. To build these arterial nets, maximum use would have to be made of the manpower and technological resources of each individual national economy. Thus, the OSS was established as the main coordinating organization at a meeting held in Moscow in 1957 under the temporary chairmanship of the Minister of Communications of the USSR.

#### OSS organization and functions

The active members under the current telecom development program are Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the USSR, although other Communist countries are nominal members. The Minister of Post and Telecommunications in each country serves as a senior representative of OSS, which, insofar as is known, has no permanent chairman. Administratively, the OSS is broken down into the following commissions:

- First Commission for Telecommunications—Chairman: USSR.
- Second Commission for Radio Communications—Chairman: USSR.
- Third Commission for Scientific and Technical Cooperation—Chairman: East Germany.
- Fourth Commission for Postal Affairs—Chairman: Poland.
- Fifth Commission for Project Editing—Chairman: USSR.
- Sixth Commission for Long-Term Cooperation and Planning—Chairman: Poland.

The charter of OSS includes the following general missions:

- Develop and install more modern telegraph and telephone circuits between member countries.
- Advance the services of existing post and telecom networks between member countries.

- Study and adopt technical measures that will insure the mutual exchange of television and radio-broadcast programs.

- Expand postal operations and prepare and put into effect advanced methods for organizing and mechanizing postal work.

- Consult with other member countries to determine inter-country rates for post and telecom services.

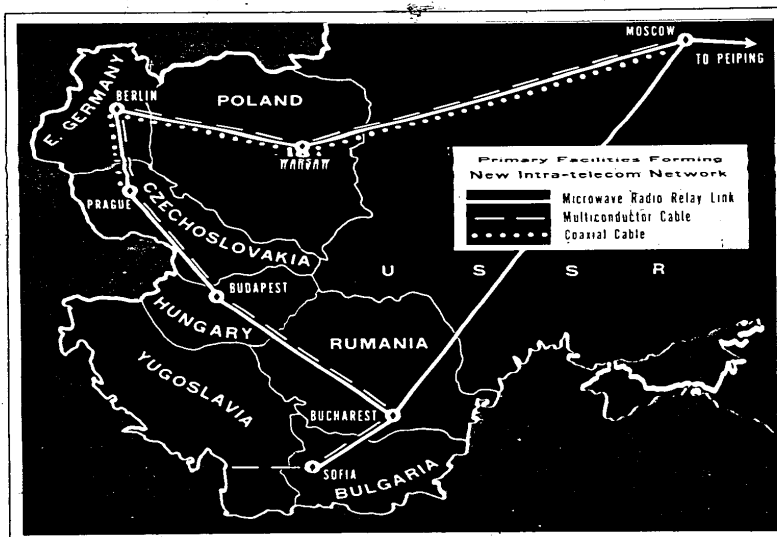
- Collaborate on scientific and technical research and development.

- Coordinate the allocation and usage of radio frequencies.

known as the Coordinated Project, which is international in scope.

#### OSS objectives and progress

Current objectives of OSS through 1965 include the installation of a compatible mixture of high-capacity underground coaxial and paired cables and radio relay transmission facilities. The present and projected intra-network and individual country needs for a diversified and reliable long-distance telecom complex are expected to be met by these facilities. Additionally, automation of major telephone and telegraph exchange ter-



- Cooperate in studies and exchange data on ionospheric radio wave propagation.

Meetings of senior representatives are held every 2 years on a rotated basis among the various member countries. All projects adopted must be approved by the council of ministers, and each minister is responsible for carrying out the adopted projects assigned to his respective country. Two methods for handling projects are used: One is called the Independent Project, which is concerned chiefly with local post and telecom problems over which little control is exercised by OSS; and the other is

minerals and expansion of television facilities for European Communist countries are programmed. During 1966-75, the initial objectives will be completion of all main intra-network and domestic communications arteries, but the main emphasis will be placed on expansion and full automation of the terminal operating installations.

During its first 2 years of existence, OSS was beset with the usual problems of a relatively new organization, but most of the difficulties were resolved as the Eastern European Warsaw Pact countries became aware of the benefits to be derived from a unified program. Through well-planned coordination of



EAST German television tower, Dequede. [U]

OSS, these countries have made considerable progress in a number of projects.

#### Warsaw Pact intra-network

The reliability of telecom services among the member countries has been

improved considerably by installation of "hardened" underground cables along main and alternate routes, and the use of multiple transmission media on important routes. Also, the facilities are less vulnerable to natural and manmade interruptions. The new arterial network facilities are still under construction, but a significant part of the over-all construction program has been completed.

Installation of a four-tube underground coaxial cable route linking Moscow with East Berlin via Kiev and Lvov in the USSR; Przemysl, Tarnau, Krakow, and Katowice in Poland; Brno and Prague in Czechoslovakia are the more outstanding achievements. This coaxial cable is capable of accommodating all modes of information transfer including telephone, regular telegraph, facsimile, telex (private teleprinter exchange service), data transfer, and radio and television program transmissions. At present, ultimate planned carrying capacity for the cable is about 2,000 two-way telephone conversations, or from 30 to 600 telephone conversations and two television channels. With suitable equipment, each telephone channel can be used for 18 voice-frequency telegraph channels. The new coaxial cable route was opened on 5 November 1964 with transmission of an intra-network television program originating in the Moscow telecenter.

In late 1964, work was nearing completion on the intra-network semi-automatic telephone system, and direct semiautomatic connections already are available between most of the member countries. Additionally, direct distance telephone dialing has been successfully tested between Budapest and Moscow and between Prague and East Berlin. Assembly of a modern international telephone exchange in Warsaw was started in late 1964. When this exchange is placed in service, Poland probably will be the first member country with a fully modern international telephone exchange.

An automated intra-network telegraph system known as "Gentex" was activated in June 1962. The purpose of this network is to provide automatic through-switching facilities to make possible direct and rapid telegraphic communications among the member countries. During 1963 limited connections between the Soviet "Gentex" net and similar networks operating in Western Europe were made, and full

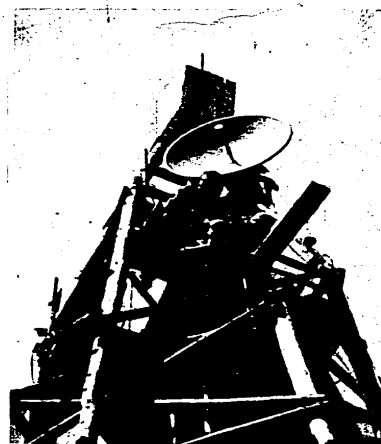
integration probably will eventually be realized.

#### Individual country systems

Developments of domestic telecom systems are largely carried out on an independent basis, but the modernization programs are essentially an integral part of over-all development schemes coordinated by OSS.

Most recent projects in individual countries have followed a similar pattern of installation of new cable and radio relay facilities, modernization of terminal operating installations, and construction of additional television stations. These projects include:

- Bulgaria—Automatic telephone exchanges have been installed in the



FIRST Hungarian radio relay station. [U]

larger cities, and semiautomatic exchanges predominate in the medium-size cities. The current Five Year Plan (1963-1967) calls for completion of the high-capacity radio relay link from Sofia to the Rumanian border.

- East Germany—Completion of the northern ring of the well-developed East German long-distance coaxial and paired underground cable network; significant progress in completing the final section of the southern ring in the cable net; and modernization and automation of all main terminal operating installations.

● Hungary—Installation of new high-capacity underground cables on main long-distance arteries and construction of new radio relay facilities. Automatic telephone exchanges have been installed in five major Hungarian cities; and direct teleprinter connections have been placed in operation from Budapest to seven of the main urban centers. Television facilities also are being expanded.

● Poland—New high-capacity cable and radio relay facilities have been installed; construction of new automatic telephone central offices in four major centers is underway, and radio and television broadcast stations are scheduled to be built in 11 other centers.

● Rumania—New underground cable facilities on major routes have been completed; installation of radio relay links are underway; terminals are being modernized; and television stations are under construction throughout the country.

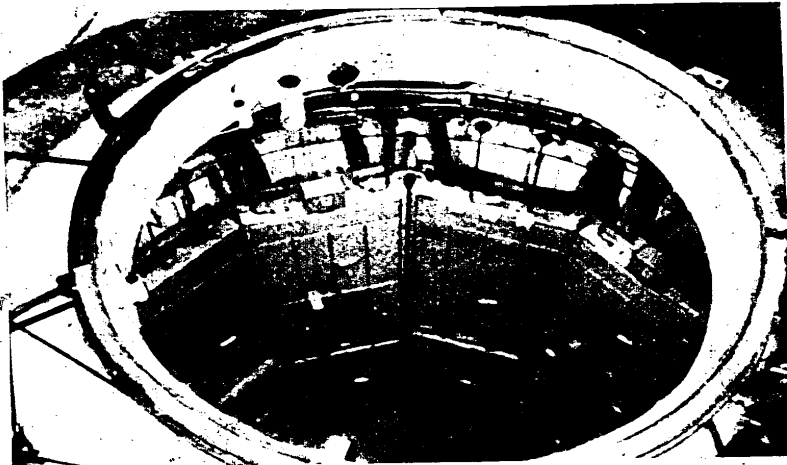
● USSR—The greatest amount of work in the USSR is reflected in the steady progress toward establishment of a nationwide high-capacity cable and radio relay net and the introduction of automated telecom services.

#### **CEMA's role**

The Council for Mutual Economic Assistance has been in existence since 1949 and was revamped in 1956 in an effort to stimulate coordination of economic activities of the member countries. Membership is composed of the USSR, the Eastern European Warsaw Pact countries, and Outer Mongolia. Communist China, North Korea, North Vietnam, and Yugoslavia participate only as observers.

Within CEMA, Section Nine for Telecommunications Technology conducts most of the coordinative effort with OSS. Hungary provides the permanent chairman.

In conjunction with OSS, CEMA assigns research and development tasks for designated equipment to specific member countries. When the testing and experimental stages are completed, series production is allocated to those countries that are assumed to have adequate facilities to fill their domestic and export requirements. Because of CEMA's involvement in coordinating so many aspects of the national economies, Section Nine may accept or reject plans that previously have been agreed within OSS. This organization assures availability of



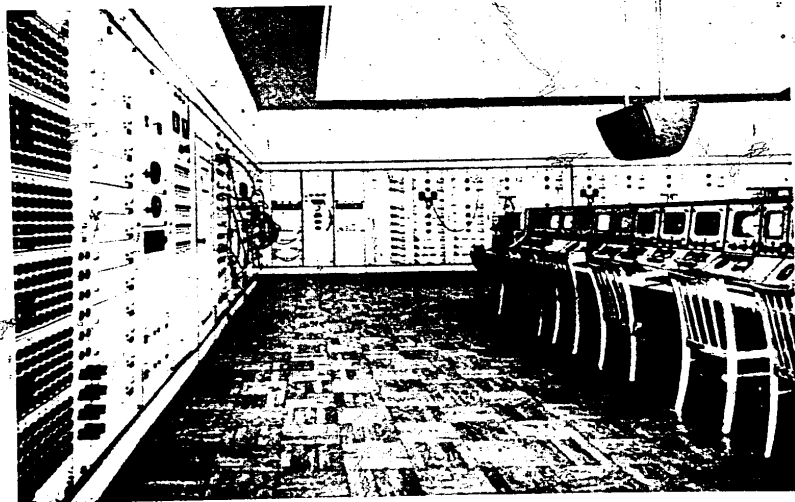
TYPICAL intra-country underground repeater station for four-tube coaxial cable line. [U]

equipment for telecom projects undertaken by OSS.

#### **International Communications System**

The International Radiobroadcasting and Television Organization (OIRT) is a Soviet-dominated organization that effects cooperation

among Communist member countries as well as some non-Communist countries in the field of radiobroadcasting and television. The original organization was founded in Brussels in 1946 and was known as the International Broadcasting Organization (OIR). Initially its membership con-



MAIN television switching room in Berlin handles international program exchange. [U]

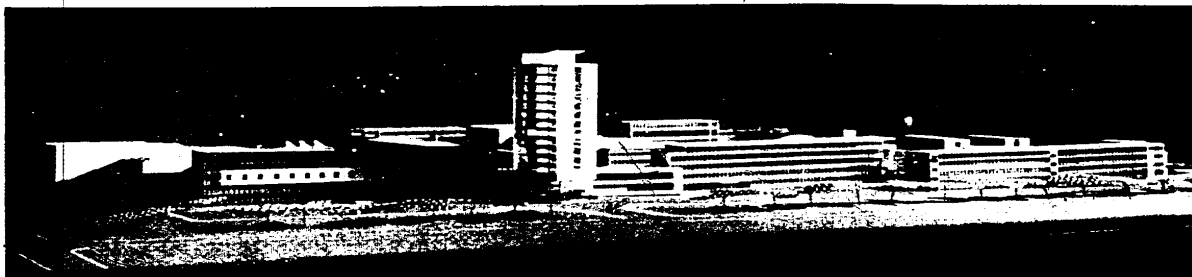
sisted of representatives from 28 European and Middle Eastern countries. By 1950, however, in consequence of persistently obstructive tactics employed by the Communist members, all non-Communist members, except Finland, had withdrawn and formed the European Broadcasting Union (EBU). The remaining countries reorganized into the OIRT and designated Prague as permanent headquarters. In 1952, the broadcasting organizations of Communist China and East Germany joined OIRT; and in subsequent years,

The principal function of OIRT is to promote and maintain good working relations with all important organizations active in the field of radio and television. One primary goal is to promote mutual exchange of broadcast programs on an international basis.

Within the framework of OIRT is a television network which is called Intervision. Intervision was established on 2 February 1960 when the television systems of East Germany, Czechoslovakia, Hungary, and Poland were linked through the use of tem-

realized through the Intervision Technical Coordination Center. Transmissions from the recent Tokyo Olympics became a serious test of Intervision technical capabilities and organization skill.

The Intervision network connects about 60 television stations within the Warsaw Pact countries by means of a system of relay stations and cable lines; it also provides connections with Eurovision, the Western European television network. The Intervision network is being steadily improved and expanded by the replacement of



MODEL of Warsaw's Radio and Television House; designers plan for a centralized combined radio and television building complex. [U]

Mongolia, North Korea, North Vietnam, Egypt, and Iraq became members. Late in 1961, Cuba and Mali also joined. Indonesia, Yugoslavia, and Morocco have attended OIRT meetings as observers.

#### OIRT organization and functions

The governing body of OIRT is the General Assembly, which consists of one representative for each active member country. An Administrative Council, comprising between 7 and 13 members, meets annually. The most active body is the Presidium, which meets as required and comprises a Chairman, Vice Chairman, Secretary General, Chief Editor, and Director of the Prague Technical Center. A second Technical Center is located in Shanghai. OIRT also has specialized commissions including: Technical Commission; Program Committee; Television Committee; Intervision Council; and a Permanent Committee for Regional Areas.

porary radio relay facilities. Since that time, temporary connections have been replaced by fixed installations. In 1962, the USSR joined Intervision, and additional coverage was achieved early in 1963 when Bulgaria and Rumania joined.

#### Some progress

In promoting the mutual exchange of broadcast programs on an international basis, OIRT has been successful within the Warsaw Pact countries and also has initiated the exchange of programs with non-Pact countries. Since the radio and television facilities of Communist countries are owned and controlled by the State, a political slant to programs emanating from those countries is inescapable.

The mutual exchange of television programs, which until the establishment of Intervision had been very sporadic and uncoordinated, has been

temporary and low-quality installations with new and modern ones.

OIRT maintains good working relations with EBU to promote Intervision-Eurovision transmissions.

#### Progress through coordination

Unification of the intra-network telecom system has done much to facilitate military and civil communications. The system will provide better and more reliable communications between the military forces deployed throughout the Warsaw Pact countries.

Hardened facilities and radio-relay links using alternate routes contribute to a more dependable and less vulnerable communications system. Gains made in automating domestic and intra-network telephone and telegraph systems will speed up telecom transmissions for both civil and military purposes. [END]



## Algeria Forges Ahead

# MOROCCO AND ALGERIA REBUILD ARMED FORCES

Both nations have continued to improve capability of their armed forces since October 1963 border conflict; Algeria now has the capability to cope with local conflicts involving disputed area

THE Algerian-Moroccan dispute over undemarcated stretches of border separating these two countries remains unsettled. Minor border incidents could again escalate into a major conflict between the two countries, but a border conflict such as that initiated in October 1963 does not appear imminent. Both countries are building stronger military forces, but the balance of power has changed.

Since the 1963 conflict, the balance has shifted from Morocco to Algeria, and indications are that this shift will become more evident during the next

year. Algeria has gained the capability to cope with any local conflict which might arise over the disputed border. On the other hand, the Moroccan Government is aware of this trend and is seeking actively to improve its present military posture.

### 1963 conflict

Both Algeria and Morocco faced economic and political difficulties in the fall of 1963. During the summer, border tensions had risen to a high pitch and incidents were frequent. Dissidence had also erupted

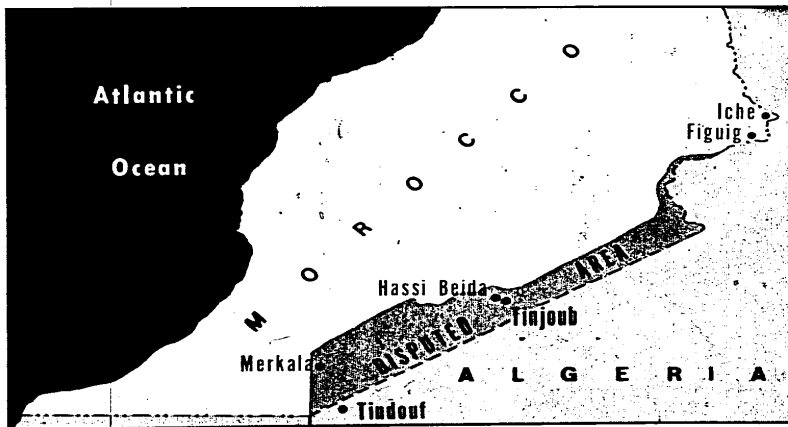


ALGERIAN infantry on parade. Ground Forces are improving qualitatively. [S]

in the Kabylie area of Algeria posing a serious threat to President Ben Bella's regime. During the same month, Moroccan auxiliaries occupied Hassi Beida and Tinjoub—oases which had been periodically patrolled by these Moroccan elements. Algeria unexpectedly reacted with regular forces, and after severe fighting, captured the two oases on 8 October. Moroccan troops attacked 8 days later and assumed command over the area again.

Algeria, in the meantime, was probing to the northeast at Figuig and Iche. Morocco spread the conflict southwestward to Merkala, threatening the rich ore deposits at Tindouf.

Moroccan ground forces, which at the height of the conflict probably totaled some 52,500, were organized into battalions of about 700 men each. Tanks and artillery employed were of US, French, and Soviet origin. The Moroccan Air Force totaled about 2,250 personnel (69 pilots) and approximately 115 aircraft, including 10 Mig-17's (plagued by a lack of spare parts), and 24 transports, which included 10 C-47's and 5 C-119's. Organized air units consisted of a jet fighter squadron, a transport squadron, and a training unit. The air force was limited by its size and condition, but without air opposition from Algeria, it demonstrated a modest air/ground and logistic support capability. The navy (of about 500 personnel, a patrol escort, a submarine



June 1965

Secret 37

chaser, and a small patrol craft) played no part in the conflict.

Algeria's ground forces of 60,000 men (and through mobilization expanded to over 70,000) were organized in battalion-size garrisons. They were deployed throughout the country and armed with a variety of weapons acquired during and immediately after the struggle for independence from France. But the army had little experience in operations at company or battalion levels. The Algerian Air Arm initially consisted of 17 aircraft, including 4 Mig-15/17's. Personnel strength totaled 350 (25 to 30 pilots) plus 300 personnel training abroad (200 in the USSR, Bulgaria, Czechoslovakia, Communist China; 100 in the United Arab Republic). Most of these were believed to be in pilot training programs. During the border conflict, although it received an additional 9 to 12 Mig 15/17's from the UAR and USSR, the air arm was unable to muster any effective air support. Algeria's small naval force, of some 600 personnel, two former Soviet motor torpedo boats, and one service craft was not engaged in the conflict.

In Morocco, political opponents united behind King Hassan or were silenced. Algeria's President Ben Bella seized the opportunity to call for mass mobilization; insurgent leaders also joined the march to the front. Better organized and better trained Moroccan troops outfought the numerically superior Algerians, who were hampered by lack of communications and logistic support. Both sides, however, were anxious to terminate hostilities and welcomed the



UNIT of Moroccan Ground Forces on review. Size of Armed Forces has remained relatively stable since the border conflict with Algeria in the fall of 1963, which remains unsettled. [S]

intervention of Ethiopian Emperor Haile Selassie, whose efforts subsequently received Organization for African Units (OAU) endorsement. After a brief verbal encounter in Bamako on 29 October, in the presence of Haile Selassie and Mali's President Keita, Hassan and Ben Bella agreed to a cease-fire effective at midnight, 1 November. An OAU armistice and truce committee was formed subsequently, and it succeeded eventually in securing a withdrawal of the two armies behind a ceasefire zone. A second OAU group, currently is striving to resolve the boundary issue.

#### MOROCCO

Moroccan Armed Forces have remained relatively stable since 1963. Ground forces strength of 35,000 represents a modest increase in peacetime

strength over mid-1963. Equipment inventory includes 40 Soviet T-54 medium tanks; 17 AMX-13 French light tanks; 78 120mm and 440 60mm and 82mm mortars of Soviet, Czechoslovak, and French origin; 34 anti-aircraft artillery pieces (14 French 37mm, 20 Soviet 120mm); and about 60 French rocket launchers. Air force strength consists of about 2,300 personnel (85 pilots), and 130 aircraft, 20 of which are jets. Fighter and transport strength is virtually unchanged from that of October 1963. Naval personnel strength has increased 35 percent to 680; an additional patrol escort (PF) has been acquired; the submarine chaser (PC) has been replaced by a new French-built ship; and a new utility landing craft (LCU) has been added. Naval strength will be further augmented by two submarine chasers now under construction in France. Approximately 50 Moroccan naval personnel are training in France, and a 50-man French Naval Mission is in Morocco.

#### ALGERIA

Algerian Military forces are being reorganized and reequipped. Personnel strength has been reduced to about 50,000; planned strength calls for eventual reduction to 40,000 men. The planned tactical organization includes five small divisions of 6,000 men each, one in each military region (a 6,000-man motorized infantry division has been formed in the 2d Region), plus 10,000 men in headquarters and service elements.

Algerian ground forces are improving qualitatively. Older, marginally effective personnel are being released.

### BORDER PROBLEM

**T**HE Treaty of Delimitations, signed at Lalla-Marnia in 1845 by France and the Empire of Morocco, established a 102-mile boundary segment from the Mediterranean to the hill of Teniet Sassi. The Protocol of 1901, also signed by France and Morocco, extended the boundary to Guir. The Varnier line, unilaterally drawn by France and sanctioned by a French Ministerial Decree of 21 March 1912, called for a boundary south of Figuig to Hamada du Guir. General acceptance of the 1845 treaty by Algeria and Morocco left no question of the northern frontier. The boundary to Figuig, likewise, appears to be valid. The Varnier Line was accepted by Morocco for administrative and customs purposes, but its status has been obscured by changes made unilaterally by France and by further attempts to establish a boundary to the west. The major territorial dispute is centered in the area southwest of Figuig. Several attempts have been made to establish a boundary in this area, but none has any legal basis in law or treaty. [S]

Extensive recruiting of younger personnel (average age about 19) is in progress. A service school system includes a noncommissioned officers' academy (to be developed into a conventional military academy), and infantry, transportation, communication, and command schools. Artillery and armor schools also are being activated. Engineer and medical schools are either planned or in early stages of activation. In addition, more than 700 officers and enlisted personnel had received or were receiving training in the USSR and other Communist countries at the beginning of 1965.

Material inventory, predominantly of Soviet origin, has been acquired in three phases: just before and immediately after independence; during and immediately after the first Kabylie outbreak and the active phase of the border conflict with Morocco in

October 1963; and in the period following the border conflict. Estimated equipment includes about 250 Soviet T-34 and T-54 tanks; approximately 140 armored cars and 22 self-propelled assault guns; 450-500 pieces of artillery of all types from 57mm to 152mm (field and antiaircraft artillery); trucks of all types from 2-ton up to artillery prime movers (total roughly estimated at 1,500, including 500 new West German and 500 new Soviet vehicles); 6 early warning/ground control intercept (EW/GCI) radars; and 4 truck-trailer-mounted radio communication sets.

Organizational and tactical inadequacies revealed by the limited action in the border conflict prompted modernization of the air force. During 1964, Algeria received 84 aircraft from the USSR, bringing the total inventory to 148, including 51 jet fighters

and 12 jet light bombers. Of the total personnel strength of some 750, only about 75 are qualified pilots. Several hundred Algerians are training abroad in aircrew and technical specialties.

Soviet air personnel in Algeria not only supervise the ground training program but also serve in command positions.

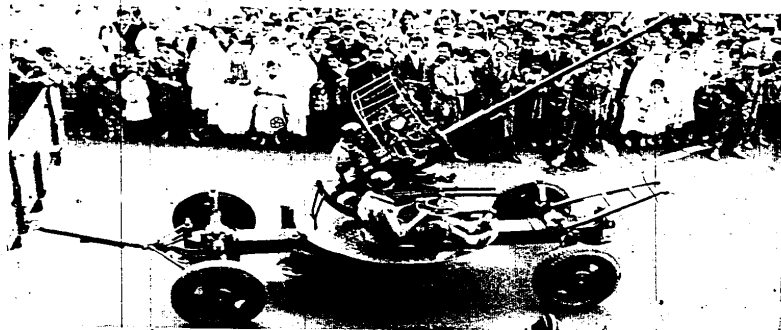
Naval personnel strength has been increased more than 40 percent to 850, including more than 300 Algerian naval personnel who are in training or who have been trained in the Soviet Union. Six Soviet motor torpedo boats have been added.

Algeria's capability for offensive and defensive operations against Morocco is impressive. Ground forces could probably defend effectively for an extended period the frontier sector from Figuig north to the Mediterranean. Defensive capabilities southward, although limited at present, are improving. Algerian air capability now is superior to that of Morocco, and the margin of superiority probably will increase further. Algerian naval strength numerically is superior to that of Morocco, but the training of Moroccan personnel surpasses that of the Algerian in quality.

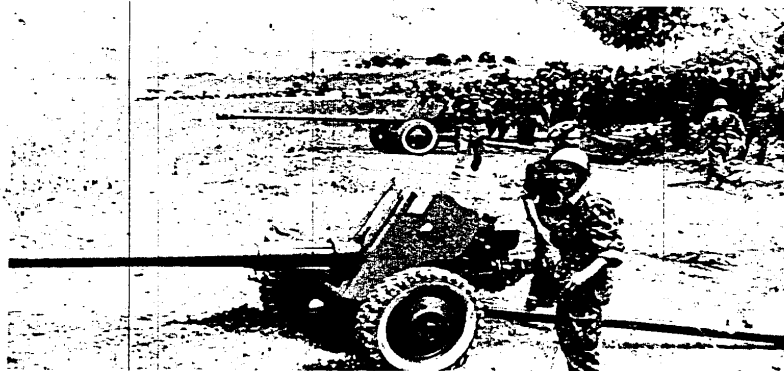
Factors which impede progress toward achieving the full potential suggested by the personnel strength and sizeable equipment inventories include:

- Internal security commitments, that have disrupted progress on major organizational plans and training.
- Insufficient number of trained commanders and staff and technical officers at all levels in the ground forces.
- Lack of practical training and experience in general staff operations and in employing units above company level.

The potential of Algeria's aircraft inventory probably will not be realized until the latter part of this year. By that time, aircrews and maintenance personnel will have achieved an acceptable level of proficiency to man and maintain sophisticated Soviet equipment, including Il-28 jet light bombers and Mig-21 jet fighters received recently. But some flight elements still are commanded by Soviet pilots, as Algeria lacks officers with command experience. Algeria's progress in improving its military capabilities is dependent almost entirely on assistance it will receive from outside sources, and this assistance is expected to continue. [END]



ALGERIA's material inventory is predominantly of Soviet origin and has improved considerably; 37mm AA gun on parade, above, and 85mm field guns ready for firing, below. [S]



Troops Transferred . . .

## CAMBODIA STRENGTHENING DEFENSE ON TWO BORDERS

**Government is alarmed by increasing number of incursions from Thailand and South Vietnam. Prince Sihanouk, the Chief of State, announces nationwide alert; dissident group threatens security**



PRINCE NORODOM SIHANOUK

CAMBODIAN Government efforts since 1958 to establish firm control of border areas have proved unsuccessful. Consequently, border incursions have increased and are threatening the nation's internal security. Mounting incidents along Cambodia's borders with both South Vietnam and Thailand have so alarmed the Cambodian Government that it has realigned its defenses, and Prince Sihanouk, Chief of State, announced an alert status for the nation early in 1965. Subsequent to Sihanouk's announcement, Cambodian Armed Forces GHQ ordered its army and security forces to improve their defense capabilities and

to reinforce the garrisons along the borders.

Border incursions are particularly prevalent on the southeastern boundary of Cambodia where groups of Viet Cong (VC) from South Vietnam infiltrate to obtain food and supplies. In addition, these VC groups have perpetrated some terrorist acts against the villagers, including occasional murders.

VC activity is causing grave concern in Phnom Penh, Cambodia's capital, and the dangerous situation is aggravating already sensitive relations between the governments of Cambodia

and South Vietnam.\* South Vietnam claims that Cambodia is supplying the Viet Cong with bases and that Cambodian Army units along the border not only cooperate with VC forces but regard themselves as virtual allies of the VC. Cambodia vehemently denies all these allegations, but the army has reinforced some of its posts in that area.

An equally serious situation exists along the western boundary of Cambodia where an anti-Sihanouk group, the *Khmer Serei* (Free Cambodia), is

\*See "Cambodia's Support of Viet Cong Stems from Traditional Rivalries," February 1965 issue.



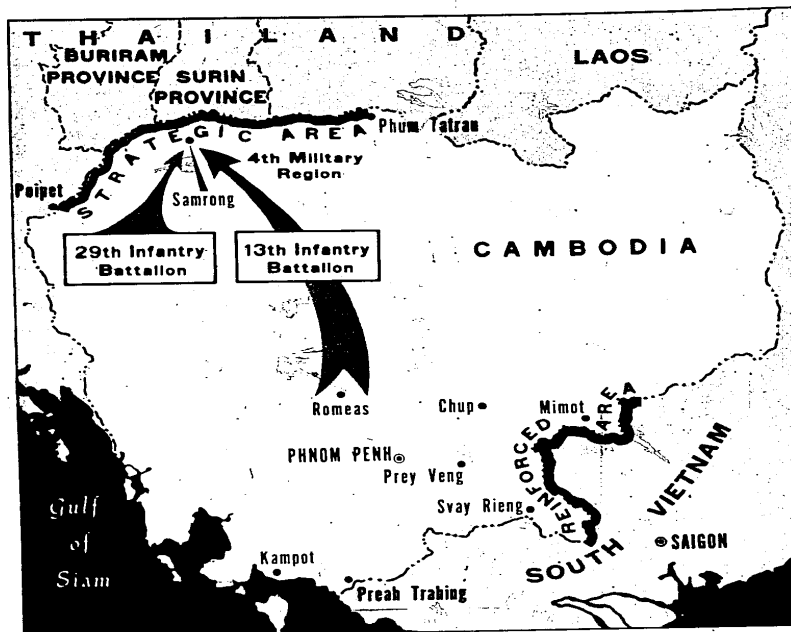
CAMP le Rolland, near Vietnamese-Cambodian border; barbed wire and embankment surround a Cambodian Army garrison. [C]

further threatening Cambodia's internal security. Reliable sources report that *Khmer Serei* leader Son Ngoc Thanh is in Cambodia near the Thai border between Surin and Buriram Provinces, presumably to organize a plan to raid Cambodia.

Other reports indicate that *Khmer Serei* operations in Cambodia will be intensified. The recent raids led by *Khmer Serei* insurgents across the Thai border created an uneasy watchfulness in Phnom Penh. They also precipitated fresh outbursts from Prince Sihanouk against South Vietnam and Thailand and his subsequent announcement of alert status for Cambodia. Sihanouk was especially alarmed over the *Khmer Serei* operations because of this group's proclivity toward the West and because of its antigovernment propaganda. In addition to initiating radio broadcasts avowing the overthrow of Sihanouk, the *Khmer Serei* insurgents distribute weapons to villagers along the Cambodia/Thai border.

A recent border incident at Preah Trahing, staged by South Vietnamese troops—presumably to prove that the Viet Cong take refuge in Cambodia—had far-reaching effects. Defense tactics in areas near South Vietnam were reevaluated. In places like Kampot, Chup, Mimot, Prey Veng, and Svay Rieng, improved defense measures were taken to preclude further intrusions by South Vietnamese forces.

Operations by the *Khmer Serei* along Cambodia's border with Thailand also have resulted in defense changes. Cambodia's previous defense policy had been based on the assumption that the greatest military threat was from South Vietnam. Now special attention also has been focused on the much-ignored 500-mile stretch of Thai border extending from the Gulf of Siam to the Lao border, especially the strategic areas between Poipet and Phum Tatrau. The Cambodian Army 13th Infantry Battalion was transferred permanently from the General Reserve at Romeas to the IV Military Region at Samrong. In addition, the 29th Infantry Battalion is believed to have been activated last February and permanently deployed in the troubled area of Samrong. The two battalions are believed to be equipped with armored personnel carriers (BTR-40), 75mm recoilless rifles, 82mm mortars, and transport vehicles (GAZ-63).



TROOPS find it necessary to hike through jungle to reach many remote villages.

[C]

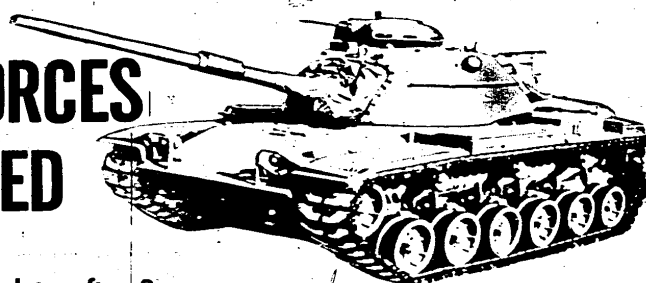
June 1965

Secret 41

## Mideast Modernization

# IRANIAN GROUND FORCES BEING REORGANIZED

Conversion to advanced standards virtually complete after 3 years of effort; high potential over-all capability achieved; added equipment and intensified training should enhance morale



M-60 tank, US equipment supplied to Iran for use in their newer tank battalions. [S]

**T**HE Imperial Iranian Ground Forces are approaching the final phases of an extensive reorganization begun in 1962. The changes have resulted in the army's now having the highest potential combat efficiency in its history. This has been achieved despite a reduction in total strength—

from about 175,000 to 155,000 in the past 3-year period—with a further decrease to about 143,000 contemplated by 1967.

Traditionally, the Imperial Iranian Army (IIA) placed considerable emphasis on maintaining internal security. With the reorganization, the

Imperial Iranian Gendarmerie (IIG) now has more responsibility for internal security, and the army has been strengthened for maintaining territorial integrity against external threat.

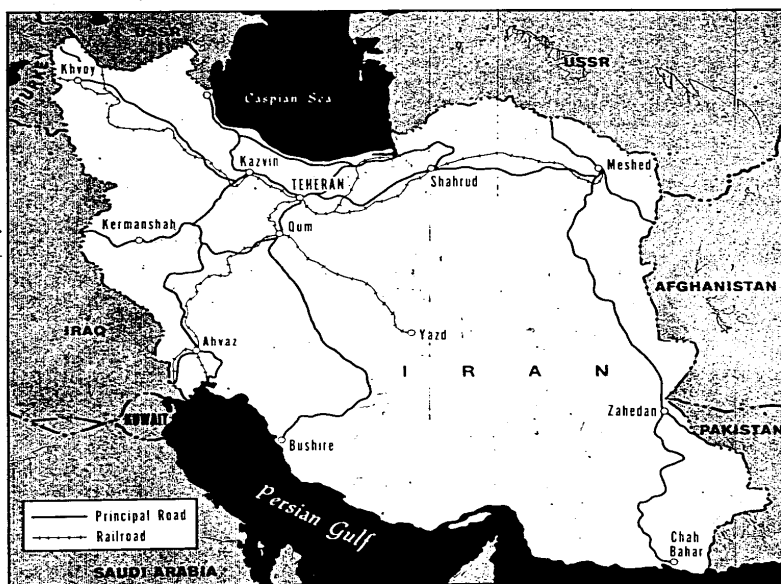
Reorganization since 1962 has been continuous.

- Early in 1962 the Supreme Commander's Staff created, at joint level, the Logistics and Administrative Command, to centralize the functions for all three services. About 20,000 army troops were assigned to the command.

- In mid-1962, IIA Headquarters directed the dissolution of the six army corps and the activation of two field armies.

- In early 1963 the IIA was composed of 13 infantry divisions; 4 infantry brigades; and 38 separate battalions—5 tank, 7 armored cavalry, 11 horse cavalry, 4 heavy artillery, 5 antiaircraft artillery, and 4 engineer, 1 infantry, and 1 special forces. At that time, IIA strength totaled about 175,000, including the troops assigned to the Logistics and Administrative Command.

- The plan for major reorganization of the ground forces became known as the Afshin Plan and widespread implementation began in mid-1963. The plan called for deactivation of 156 existing units ranging in size from division to platoon and replacement with 126 newly activated units of comparable size. At this time, animal units began deactivation, and use of newly received M-113 armored per-



sonnel carriers and some M-47 medium tanks increased. Under the plan, the new armored units expected to receive additional armored personnel carriers and light tanks, and additional medium tanks were to become available when tank battalions received the heavier M-60 tanks. These improvements, however, have not yet been completed. Concentration of tracked equipment in one division—8th Infantry—enabled that division to begin conversion into an armored unit.

- In late 1963, as prelude to continued reorganization, 24 infantry regiments assigned to the divisions were redesignated brigades. Tactical units formerly subordinate to Logistics and Administrative Command headquarters were returned to divisional control.

- By early 1964 most of the intended changes in unit designation had taken place. The IIA was composed of 8 infantry divisions and 5 frontier brigades. There were 36 separate battalions, similar to those of early 1963 except that 9 of the horse cavalry battalions and all 5 antiaircraft artillery battalions had been deactivated, and 8 frontier battalions and 1 parachute battalion had been added. Deactivation of the 5 AAA battalions resulted in part from recognition of the unsuitability of World War II-type ground weapons for coping with modern aircraft, a problem to be resolved eventually by activation of Hawk missile units. Further evidence of a trend toward increased firepower was the addition of light artillery units for improved infantry support. Transfer of mechanized equipment to the revamped gendarmerie was a significant step in improving the capability of that force.

- Additional changes, accomplished by early 1965, included redesignation of the 8th Infantry Division as an armored unit and further refinement of other divisions by standardizing the types of subordinate units to include light artillery and armored cavalry.

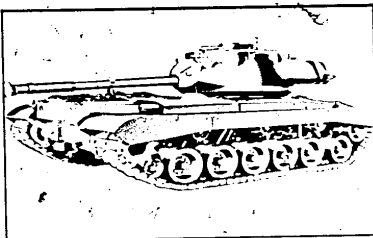
#### Mobility improved

Improved mobility is a natural byproduct of the modernization trend toward mechanized equipment. An important improvement in mobility is the development of two parachute battalions and the recently improved capability of the Imperial Iranian Air Force to provide airlift for both paratroop and assault landing opera-

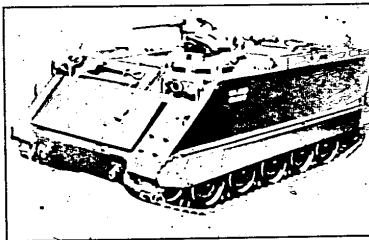
tions. This important capability enables the IIA to move, in a matter of hours, key elements that until quite recently were either restricted to an inadequate ground transportation system or had to be stationed near likely trouble spots. Additional mobility for army units is being realized through the current development of Iran's road and railway systems.

#### Tasks remaining

Although unit reorganization, redesignation, and personnel movements



M-47, above; M-113 APC, below. [U]



## GENDARMERIE IMPROVED

**T**HE mission of maintaining internal security throughout Iran, with new emphasis on the border areas, is now being carried out by a greatly improved gendarmerie. This organization, augmented in part by former IIA border guard units, totals about 32,000 personnel compared with 27,000 in early 1963. The acquisition of mechanized equipment also has improved significantly the capability of the force to meet the increased responsibility. [S]

are essentially completed, the sizable tasks of reequipping and retraining the new units will require considerable time and effort.

The Logistics and Administrative Command, which has improved steadily but somewhat slowly since its activation in 1962, has played an important role in the reorganization program. This command is concentrating on maintaining the inventories of equipment being redistributed among units, and requisitioning and delivering other required items.

In addition to these critical functions, the command has been faced with heavier-than-normal demands in the various departments charged with responsibilities for transportation, signal, engineering, legal and security matters, and finance. These challenges, and the many other problems encountered in the reorganization and movement of units, have given the command valuable experience in planning, coordinating, and executing sizable operations.

Considerable retraining also is required. Personnel of many units have been faced with problems of learning to handle new equipment, and in many instances, the geographic as well as the unit environment is new. The process of training becomes additionally important and more difficult in newly formed units, many of which still are awaiting equipment.

Accordingly, the IIA is placing increased emphasis on field exercises, both to train the new units and to measure their potential combat effectiveness. Within the last year, IIA field exercises of particular value have ranged from brigade-size maneuvers, including antiguerrilla exercises and joint IIA-IIG counterinsurgency training, to the more elaborate and well publicized "Delewar" operation of April 1964. "Delewar" included the Imperial Iranian Army, Navy, and Air Force, and United States forces. The successful exercises gave the IIA valuable experience in planning, staffing, and coordinating with a foreign force as well as in conducting integrated operations with its own navy and air force, and contributed to morale within the ground forces.

With the reorganization nearing completion, equipment redistribution well underway, and continuing emphasis on improvement of equipment, personnel, and training, the Imperial Iranian Ground Forces are attaining a greatly improved capability. [END]

# DEFENSE INTELLIGENCE BRIEFS

## S-BAND FAN SONG RADAR POSSIBLY PHASING OUT

**T**HE gradual and considerable decrease in the number of S-band Fan Song radar signals within the Warsaw Pact countries may indicate a phaseout in the use of that type of equipment. Fan Song radar is associated with SA-2 air defense missile complexes.

Concurrent with the reduction in S-band signals has been the conversion to C-band equipment in the East European Warsaw Pact countries. For example, of 49 fixed SA-2 SAM sites in East Germany, 22, operated by Soviet personnel, are now equipped with the more advanced C-band Fan Song, as are at least 4 and probably more of the 24 operated by East German nationals. It has not been determined whether the Soviets or East Germans are manning the radars at the remaining three sites. C-band Fan Song radars also are believed to be deployed in Czechoslovakia and Poland.

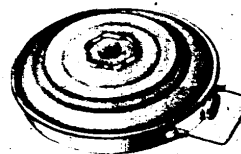
The initial detection range of the S-band Fan Song would normally be limited by pulse repetition frequency to about 74 nautical miles and the C-band Fan Song to about 88 nautical miles. This and other factors contribute to a current estimate of 17 nautical miles as the maximum destruction range of the Guideline missile employed in an SA-2 system with the S-band radar, and about 25 nautical miles with the C-band version. [S]

## SOVIET MINE WITH ANTILIFT DEVICE ACQUIRED

**A** SOVIET TMN-46, antitank mine was recently acquired and found to have a third "fuze well" located beneath it for attaching an antilift device. This device seriously complicates the problem of neutralizing the mine. Earlier reports indicated that such a device was available for a TMN-46 mine, but this is the first one obtained. With the exception of the "well," there seems to be no outward difference between the TMN-46 and the TM-46.

TM-46 is a World War II-type mine that was adopted in 1946.

It is waterproofed, for use in creek or river beds, and can be dispensed by mechanical mine distributors but cannot be mechanically planted because it has no external arming mechanism. [C]



SOVIET antitank mine  
TM-46. [S]



## ROAD DEVELOPMENT CONTINUES IN SOUTHEASTERN LAOS

COMMUNIST forces are continuing development of a new road network in the southeastern area of the Lao paphandle. The roads now provide lines of communication from Communist supply dumps near Muong Phine, Tchepone, Ban Trim, and Ban Dong, to Pathet Lao forces in Saravane and Attapeu Provinces to the south, and to probable transfer points for further shipment of cargo to Viet Cong forces in South Vietnam.

Sections of this network—mostly established paths and trails—have been under development since late 1963.

Approximately 480 miles of the improved roads are tied to Routes 23 and 16. These new routes traverse hilly-to-mountainous terrain along the international border areas. The network has a seasonal capability and may be utilized by light military vehicles in the dry season, although some sections are suitable for trucks.

Roads in this area have a natural earth surface; they generally average 8 to 10 feet in width (no shoulders), and are in fair-to-good condition. Off-road movement is restricted by heavy forests and dense jungle growth.

In addition to Routes 23 and 16, Route 92 and branch roads are used extensively. Route 92 is a 110-mile seasonal road which extends south from Route 9 near Ban Dong to the vicinity of Ban Phone on Route 16. Completed in December 1964, Route 92 appears to be the main route for infiltration of Viet Cong military supplies for South Vietnam.

A recently constructed bypass road and ford at Ban Keng on Route 9, about one-quarter mile northwest of Ban Dong, has replaced a ferry over the Se Pone (river). Between November 1964 and March 1965, two deck-type bridges (both approximately 100 by 10 feet) were constructed between Muong Nong and Petching on Route 92. Three intersecting roads/tracks extend toward the South Vietnam border. The southernmost 20-mile road section was under construction in April 1965.

Further development possibly is taking place on northern portions of Route 92, a jeepable track in Laos from Route 9 to the Ban Watt/Ban Trim area, and connecting routes in North Vietnam to the South China Sea.

Ban Trim is a suspected strong point and supply dump, and a possible staging area. [S]

## MORE CHICOM-MANUFACTURED WEAPONS USED BY VIET CONG

THE Viet Cong are still utilizing weapons of a wide variety of calibers in their South Vietnamese operations. When the percentages of captured weapons, by country of origin, are compared for the years 1963 and 1964 a definite trend toward Chicom-manufactured weapons can be seen:

Year	Chi-com	US	France	Viet Cong	Other
1963 (%)	8.4	27.7	49.0	8.9	6.0
1964 (%)	20.8	29.0	35.4	7.8	7.0

A family of 7.62mm weapons represents most of the increase. These are Chicom copies of Soviet-produced arms (AK-47 assault rifles, Mossin-Nagant carbines, Simonov SKS carbines, RPD light machineguns, and the DPM light machineguns).

Small arms of basic Soviet or Chicom design that are being supplied the Viet Cong are not compatible with US ammunition of any type—varying cartridge-case designs establish noncompatibility even when caliber is identical.

The only weapons supplied the Viet Cong that can utilize US ammunition are a few Chicom-manufactured copies of the US arms: 3.5-inch rocket launchers, 60mm mortars, and 57mm and 75mm recoilless rifles. In addition, the Chicom 82mm mortar also can fire the US 81mm mortar ammunition. [S]

### TYPICAL SMALL-ARMS AMMUNITION USED IN SOUTH VIETNAM

UNITED STATES			SOVIET/COMMUNIST CHINA	
CAL. 30 M2	7.62mm M59 (M40)	CAL. 30 CARBINE	7.62mm M1908 TYPE L	7.62mm M1943 TYPE PS
M1 RIFLE: M1919A4 LMG: BAR	M14 RIFLE: M60 LMG	M1, M2, M3 CARBINES	DPMLMG: MOSSIN- NAGANT	AK-47: SKS CARBINE: RPD LMG

## FROGS AND SCUDS DISPLAYED IN HUNGARY

FROG rockets, Scud missiles and PT-76 amphibious tanks were displayed for the first time in Hungary during the 4 April Liberation Day parade. The appearance of FROG's and Scuds in a Hungarian parade conforms to similar activities previously observed in East Germany, Poland, and Rumania. [C]

## CZECH ARMY RECRUITMENT HAS NEW 'INCENTIVE'

CZECHOSLOVAK Army enlistees who agree to work on mining or agricultural projects may serve a shorter term of active service. This facet of an army recruitment campaign reportedly continued through April.

Similar efforts to obtain workers for civilian enterprises, including metallurgical industries, have been noted during the past 2 years. Males who "volunteer" for such work have their compulsory 2-year service term reduced to 12 months. But this number is small, and employment of such personnel is not expected to affect adversely the capabilities of the 200,000-man army ground forces. [S]

## ROYAL NETHERLAND ARMY ADOPTS ECONOMY MEASURES

**N**UMEROUS economy measures adopted by the Royal Netherland Army (RNA) during the last year have resulted in savings both in personnel and in expenditures. These savings are expected to strengthen the NATO-committed I Corps of the RNA, and enable the army to continue—within budgetary ceilings—a program for modernization of matériel and equipment.

Among the organizational changes adopted by the RNA are:

- Elimination of the Antiaircraft Artillery Command (10 active and 4 mobilizable battalions).
- Elimination of National Territorial Command Headquarters and of Support Command Headquarters.
- Reduction in the NATO-committed Commando Corps (from three active ranger companies to one and elimination of the training center).
- Reduction in number of active territorial guard companies.

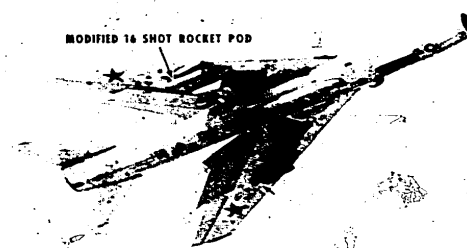
Other economy measures adopted by the Royal Netherland Army include:

- Elimination of facilities for execution of the inundation plan—a defense contingency now deemed obsolete.
- Disposal of excess RNA real estate.
- Cancellation of refresher training for major tactical reserve units for the period 1964-1965.
- Indefinite postponement of procurement of a medium tank to replace the Centurion.

A slight over-all improvement in RNA capabilities can be expected from implementation of these economy measures, although some temporary adverse effects probably will be inevitable.

Continuation of the modernization program also can be regarded as a strengthening factor. Included in this program is the receipt or planned acquisition of additional modern small arms, some artillery, armored personnel carriers, light tanks, and the upgunning program (to 105mm) of a portion of the Centurion tanks on hand. On the other hand, loss of two commando companies of elite, volunteer soldiers and cancellation of refresher training for major combat reserve units probably will have an adverse effect. Similarly, many maintenance problems probably will result from postponing replacement of the Centurion tanks. The eventual result of economy measures adopted by the RNA, however, could result in the strengthening of the remaining force. [S]

## SOVIET SU-7 OBSERVED WITH MODIFIED ROCKET POD



NEWER version of Soviet SU-7 (Fitter) shown above. [S]

**T**HE rocket pod on the Soviet SU-7 (Fitter) may have been modified to increase its usefulness in flying ground-support missions at subsonic speeds. The older version apparently was designed for use during supersonic flight, as an air-to-air weapon as well as air-to-ground, and is at least 5 years old.

Recently a Fitter was observed with the modified 16-shot rocket pod under each wing. The pod differs from an earlier version in that the new pod is 1.1 feet shorter, the fairing around the rocket tubes has been redesigned, and a spike or conical-shaped point has been added to the center. The pod's capacity is still believed to be 16 rockets, 11 in the outer ring and 5 in the inner. The center spike, or protrusion, of the pod is not believed to be a rocket. [S]

## SOVIET NAVAL INFANTRY RECIPIENT OF MANPOWER

**A** RECENT *Red Star* article about a Baltic Fleet naval infantry company provides further evidence that such units have been formed from motorized rifle elements.

The commanding officer Guards Captain, Ye. S. Stolevich, was described as a "newcomer" who had commanded a rifle unit, and whose men previously had "never set foot upon the unsteady deck of a combat ship."

The newly reactivated force has all the marks of an elite organization—it wears distinctive uniforms, and its personnel presumably are handpicked. Its arms and equipment, however, are believed to be standard items found in other Soviet ground forces.

Naval infantry now is present in all four Soviet Fleet areas. [C]

**SECRET**

**DEFENSE INTELLIGENCE DIGEST**



**DEFENSE INTELLIGENCE AGENCY**

**SECRET**